SPOTTED OWL DATABASE, DBASE III PLUS

RELEASE 3.0

SPRING 1992

The Spotted Owl Database was developed by the Bureau of Land Management for the storage and retrieval of information gathered on spotted owls and their habitat through inventory and monitoring activities. The database also contains codes to permit use by other agencies. In the event that additional fields or codes are necessary they can be added through modification procedures. The database was adapted from a previous one developed by Dr. Eric Forsman.

The database is a multiple-file, relational database that stores information on:

1) locations of territiorial single and pairs of owls (SITE file),

2) individual visit records for both known and potential owl locations (VISIT file),

3) individual owls that are detected (seen or heard) during survey visits (OWL file),

4) annual summary information on the cumulative visits to a given locations listed in the SITE file (SUMMARY file),

and

5) locations of individual owls obtained using radiotelemetry techniques on owls fitted with transmitters (TELEMETRY file)

In the future, a file will will be added to store data on nest trees (NEST file).

The following instructions should allow you to enter data in the spotted owl database. The instructions are necessarily simplistic and detailed. Feel free to ignore all or part if you have dBASE III Plus experience.

This program is written for IBM compatible PCs with a copy of the dBASE III Plus program. Check with someone in your office to see if these are compatible with your system. Most districts should have one somewhere, so ask around. It will not run on most WANGs.

The data input program requires no knowledge of dBASE. It contains all the commands and screen entry forms, and is designed to lead you through the process with menus. The programs are provided on a floppy disc. The following instructions are designed for data entry on a floppy disc. If you wish to work on a hard disc, check with your district computer expert for any differences.

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ACCESSING THE PROGRAM

Begin by accessing DBASE III PLUS and inserting the floppy disc. Check with an 'expert' in your office for help on your particular machines. Once the Assist menu appears at the top of the page, press the escape key. The screen will clear and a "." will appear in the lower left corner.

type SET DEFAULT TO A, press enter key
a second "." will appear

type DO OWL, press enter key

Now just follow the menu instructions

On the MAIN MENU, shown below, press

1 to enter Data

2 for Summaries and Reports. One report is ready which allows you to print indexed copies of your data files

9 to access dBASE III Plus for work outside of the program

0 to get you out of the program and back to the computer control.

SPOTTED OWL DATABASE

MAIN MENU

1: Add/Modify Data	9: Return to dBASE III Plus
2: Run Summaries and Reports	0: Exit dBASE III Plus

Your Choice?

INPUTTING DATA

On the DATA ENTRY/EDITING MENU, shown below, press:

A to enter SITE records,
B to edit Site records
C to enter VISIT/OWL records from 1988,
E to edit VISIT/OWL records
F to print temporary files. These contain data that you entered, but were unable to print immediately after entry.
G to enter SUMMARY records
H to edit SUMMARY records
I to enter TELEMETRY records.
J to edit TELEMETRY records

K to edit Banding File Data. The initial information is automatically entered when you entered initial banding data (Observation Type BB) into the Owl File if you used the entry program.

O to enter nest tree data (program not yet available)
P to edit nest tree data (program not yet available)

M to return to MAIN MENU
R to access dBASE III Plus for work outside of the program
X to get you out of the program and back to the computer control.

SPOTTED OWL DATABASE

DATA ENTRY/EDITING MENU

A: Add Site Records	B: Edit Site Records
C: Add Visit/Owl Records	E: Edit Visit/Owl Records
F: Print Temporary Files	K: Edit Banding Records
G: Enter Annual Summary Records	H: Edit Summary Records
I: Enter Telemetry Records	J: Edit Telemetry Records
O: Enter Nest Tree Records	P: Edit Nest Tree Records
M: Return to Main Menu	R: Return to dBASE III
X: Exit dBASE III Plus	

Your Choice?

RUNNING REPORTS

On the REPORTS MENU, shown below, press:

A to Print Sorted Data Files

M to return to the Main Menu

X to get you out of the program and back to the computer control.

R to access dBASE III Plus for work outside of the program

SPOTTED OWL DATABASE

REPORTS MENU

A: Print Sorted Data Files

M: Return to Main Menu

R: Return to dBASE III

X: Exit dBASE III Plus

Your Choice?

DATA ENTRY - GENERAL

To input data, simply fill in the blanks when the screen entry forms appear. Read the following hints before starting.

I've turned the bell off, so keep an eye on the screen. In dBase III, if the value you input completely fills the spaces, the curser automatically moves to the next blank field. If not, as in most location names, you will have to press the ENTER key to move to the next field.

For some variables, if you attempt to enter the wrong type of data, ie. numbers where there should only be letters, the screen will not accept it. If you accidentally enter a value in one of these variables which should have been left blank, center the cursor on the error and hit the DELETE button. Check your machine to find this button, it's often on the keypad. If so, make sure the NUMBER LOCK is turned off.

If you have no data to enter in a particular field, just press the ENTER key to move to the next field.

If you find a mistake before you reach the end of the page, use the (up arrow) key to move to the appropriate field and simply type over the error.

To exit the record at any time, simply press the PgDn until you reach the end of the record.

If you realize you made a mistake in the last entry, make a note. At this time, you cannot access a finished record from the entry program. Follow the editing instructions given later to fix the error.

In answering the prompt questions, enter only the appropriate letter (Y/N). **DO NOT** press the ENTER key.

For all Yes and No questions, if you enter any other letter, the computer will ask you to try again. This is also true for characters not found in the Main, Data, and Report menus.

SITE FILE DATA ENTRY

To enter data in the SITE file, access the DATA ENTRY MENU. Press A. The following message will appear

Please enter the following information

Todays date (Mo/Dy/Yr) __/__/__

District ____

Salem = 080	**Medford = 110**
Eugene = 090	**Coos Bay = 120**
Roseburg = 100	**Lakeview = 834**

When you enter the information, a blank entry screen will appear with the Entry Date and district already filled in. Begin entering the data. Refer to the Site Instruction and Code sheet for the appropriate values.

When you reach the end of the record, the screen will clear and you will be asked

"Do you have additional site records to enter? Y/N"

If you enter Y, a new entry screen will appear. To help you keep track of the entries, the Site Name, and Year of the last record you entered will appear on the top of the new entry screen.

When you finish the entry session, respond with an N. The computer will then store the information you just entered in the permanent files. As the files grow, this will take some time. While the computer is working, the screen will read

"**Be patient, I am storing the data."**

The program is designed to print a hard copy of the records entered during that session automatically, so you can check for errors. When you finish entering, you will be told the following.

"This program is designed to automatically print a hard copy of the data you just entered so you can check for errors. If you cannot print at this time, the data will be stored in a file called PRNTSITE.DBF for you to print later."

If you cannot print at this time, enter N and the records will be stored for you to print later. Again, this will take time. The screen will read

"Hang on, I am storing a copy of the data for you to print later."

These temporary storage files may be printed through the DATA ENTRY MENU, Letter F. Instructions follow later.

If you can print, the computer will ask you for the paper size. It is best to use wide paper if at all possible, it saves a lot of space.

"PLEASE TURN PRINTER ON AND ALIGN PAPER."

"Use wide paper if at all possible."

"Enter paper width, W = Wide (14")   N = Narrow (8 1/2")."

SUMMARY FILE DATA ENTRY

The VISIT and OWL files will not interface directly with ARD. Instead, a summary of the results for each site, each year, will provide the information needed for analysis. In future years, we hope to program the computer to calculate these from the VISIT and OWL data. Rather than require everyone to enter all old records and develop the program, we feel that it is much easier at this point to enter this information directly into the SUMMARY file. If you have entered the old VISIT records, use the PRINT program in the SUMMARIES AND REPORTS MENU to print a sorted copy. This will make entry of the SUMMARY information easy. If not, use past records.

To enter data in the SUMMARY file, access the DATA ENTRY MENU. Press G. The following message will appear

Please enter the following information

Todays date (Mo/Dy/Yr) __/__/__

District _____

When you enter the information, a blank entry screen will appear with the Entry Date already filled in. Begin entering the data. Refer to the Summary Instruction and Code sheet for the appropriate values.

When you reach the end of the record, the screen will clear and you will be asked

"Do you have additional summary records to enter? Y/N"

If you enter Y, a new entry screen will appear. To help you keep track of the entries, the Site Name, and Year of the last record you entered will appear on the top of the new entry screen.

When you finish the entry session, respond with a store the information you just entered in the permanent files. As the files grow, this will take some time. While the computer is working, the screen will read

"Be patient, I am storing the data."

The program is designed to print a hard copy of the records entered during that session automatically, so you can check for errors. When you finish entering, you will be told the following.

"This program is designed to automatically print a hard copy of the data you just entered so you can check for errors. If you cannot print at this time, the data will be stored in a file called PRNTSUMM.DBF for you to print later."

If you cannot print at this time, enter and the records will be stored for you to print later. Again, this will take time. The screen will read

"Hang on, I am storing a copy of the data for you to print later."

These may be printed through the DATA ENTRY MENU, Letter F. Instructions follow later.

If you can print, the computer will ask you for the paper size. It is best to use wide paper if at all possible, it saves a lot of space.

"PLEASE TURN PRINTER ON AND ALIGN PAPER."

"Use wide paper if at all possible."

"Enter paper width, W = Wide (14") N = Narrow (8 1/2")."

TELEMETRY FILE DATA ENTRY

For those of you that have telemetry data available, this may be used in the ARD system and will therefore need to be in a standardized dBASE database. In most areas, the radio-telemetry data will be provided by the researchers already in a database. If the database file is in dBASE III PLUS, the transfer should be easy, but you will probably need the help of someone well versed in dBASE. The transfer will be different for each district, so we will not attempt a detailed description of the process. The following is a general discussion.

If the file is in dBASE III PLUS, examine the database variables to see which are totally compatible with our TELEMETRY file. These can simply be copied over.

For some variables, we may need a simple conversion to make the data compatible, such as 1 = A. We can write some routines to fill these.

Finally, some variables in our file are designed for our needs. They will not be on the existing database files. We will need to fill these in. I have provided an edit routine. You can call up each record and enter the new data as needed. This is the simplest way, but time consuming. You may speed things up using the REPLACE command of dBASE or writing some routines. However, you will need someone with a working knowledge of dBASE III PLUS.

If the data is not already in a database, you can use the entry program to enter this

To enter data in the TELEMETRY file, access the DATA ENTRY MENU. Press I. A blank data entry screen will appear; begin entering the data. Refer to the Telemetry Instruction and Code sheet for the appropriate values.

When you reach the end of the record, the screen will clear and you will be asked

"Do you have additional telemetry records to enter? Y/N"

If you enter Y, a new entry screen will appear.

When you finish the entry session, respond with an N. The computer will then store the information you just entered in the permanent files. As the files grow, this will take some time. While the computer is working, the screen will read

"Be patient, I am storing the data."

The program is designed to print a hard copy of the records entered during that session automatically, so you can check for errors. When you finish entering, you will be told the following.

"This program is designed to automatically print a hard copy of the data you just entered so you can check for errors. If you cannot print at this time, the data will be stored in a file called PRNTTELM.DBF for you to print later."

If you cannot print at this time, enter N and the records will be stored for you to print later. Again, this will take time. The screen will read

"Hang on, I am storing a copy of the data for you to print later."

These may be printed through the DATA ENTRY MENU, Letter F. Instructions follow later.

If you can print, the computer will ask you for the paper size. It is best to use wide paper if at all possible, it saves a lot of space.

"PLEASE TURN PRINTER ON AND ALIGN PAPER."

"Use wide paper if at all possible."

"Enter paper width, W = Wide (14") N = Narrow (8 1/2")."

VISIT AND OWL FILE DATA ENTRY

To begin entering records in the VISIT and OWL files, Press letter C or D in the DATA ENTRY MENU.

The following message will appear

Please enter the following information

Todays date (Mo/Dy/Yr) __/__/__

When you enter the information, a blank entry screen will appear with the Entry Date already filled in. Begin entering the data. Refer to the Instruction and Code sheets for the appropriate values.

When you get to the end of the VISIT entry file the screen will clear and you will be asked

"Did you encounter any owls on this visit? Y/N"

If you answer N, the computer will ask

"Do you have additional visits to enter? Y/N"

If you answer Y, a blank Visit entry screen will appear. To help you keep track of the entries, the Site Name, Date, and Response Time of the last record you entered will appear on the top of the new entry screen.

If you answer Y to the first prompt, the owl screen will appear, with the common fields copied from the visit file. You do not need to reenter these. Enter the data for the first owl. Again, use the comment field for major issues such as unusual condition of the bird, injuries, brood patch, etc.

When you have reached the end of the OWL entry, the screen will again clear and you will be prompted

"Did you encounter additional owls on this visit? Y/N"

If you contacted more than 1 owl on a particular visit, answer Y to the prompt that appears at the end of the owl entry. A new owl screen will appear. Enter the data. You may enter as many owl records as needed for each visit. The computer will continue to cycle through until you tell it you are finished.

To help you keep track of the birds you have entered, the Site Name, Date, and Response Time will appear at the top of the page. As you enter information on each bird, the sex of each bird already entered for that visit also appear at the top of the screen. This will insure that you do not enter information on a bird twice.

When you have entered all the owls for that visit, answer N to the prompt. You will be prompted

"Do you have additional visits to enter? Y/N"

If you have more visits to enter, answer Y. A blank Visit screen will appear as described above.

When you are finished entering for the time, answer N to the above prompt. The computer will then store the information you just entered in the permanent files. As the files grow, this will take some time. While the computer is working, the screen will read

"Be patient, I am storing the data."

The program is designed to print a hard copy of the records entered during that session automatically, so you can check for errors. When you finish entering, you will be told the following.

"This program is designed to automatically print a hard copy of the data you just entered so you can check for errors. If you cannot print at this time, the data will be stored in files called PRNTVIST.DBF and PRNTOWL.DBF for you to print later."

If you cannot print at this time, enter N and the records will be stored for you to print later. If you can, enter Y. Storage will take time. The screen will read.

"Hang on, I am storing a copy of the data for you to print later."

These may be printed through the DATA ENTRY MENU, Letter F. Instructions follow later.

If you can print, the computer will ask you for the paper size. It is best to use wide paper if at all possible, it saves a lot of paper. Be sure to turn the printer on.

"PLEASE TURN PRINTER ON AND ALIGN PAPER."

"Use wide paper if at all possible."

"Enter paper width, W = Wide (14") N = Narrow (8 1/2")."

EDITING ALL FILES

Editing programs have been provided for all database files. Each one begins by requesting the information necessary to select a single record from the database.

For example, in the VISIT/OWL EDIT PROGRAM you will be asked for the following information **as it appears in the uncorrected record**.

Master Site Number
Location Name
Month Day Year
Beginning Time

The computer will match this information with the appropriate record and display the existing values on the screen. The format will be the same as the entry screens. To change any value, just type the correct information over the incorrect value. Move down through the variables with the ENTER or (down arrow) keys; up with (up arrow) key. Spaces will work to erase the entry.

For the files with COMMENT sections, you can edit or add comments the same way you did during entry process.

Move the cursor to the COMMENT box

Press (ctrl) PgDn (on keyboard)

Type any necessary changes

Press (ctrl) W or (ctrl) END (keyboard) To finish the entry.

When you reach the end of the record, the computer will ask you

"Do you wish to edit another record? Y/N"

If you enter Y, you will be asked for new search information and the process will repeat.

If you answer N, the computer will return you to the DATA ENTRY MENU.

TEMPORARY FILE PRINT PROGRAM

To print with the PRINT PROGRAM, follow the instructions at the start of this instruction manual until you reach the DATA ENTRY/EDITING MENU. Type F to enter the print program.

You will be instructed

"Please turn printer on and align paper."

"Use wide paper if at all possible, it saves paper."

"Enter paper width, W = Wide (14") N = Narrow (8 1/2")."

Next you will be asked

"Please indicate which file you wish to print"

Site = S Summary = U

Visit = V Telemetry = T

Owl = O

Once the file is printer, the computer will ask

"**Do you wish to print additional files? Y/N"**

If you answer Y, the computer will begin by asking you paper size. If you answer N, the computer will return to the Data Entry Menu

Once the stored data is printed, the temporary files are erased. BE SURE TO KEEP the hard copy. If the hard copy contains more than 1 individual's entries, share the hard copy. You cannot easily print another.

SUMMARIES AND REPORTS

PRINTING HARD COPIES OF THE DATA

At some point you will probably want to print a hard copy of the data in the database. This may be done using the PRINT SORTED DATA FILES program in the SUMMARIES AND REPORTS MENU or you may wish to learn the dBASE III PLUS commands. You will have more control using the commands.

The program is prompt driven. It will print all records in the chosen data file. All files are indexed by LOCATION NAME, DATE and TIME. In addition, the owl file is indexed by SEX. If you wish to print only some records or a different order, you will have to use dBASE commands. Check the dBASE manuals or ask someone with dBASE expertise for further information.

Access the PRINT SORTED DATA FILES program in the SUMMARIES AND REPORTS MENU. You will be instructed

"Please turn printer on and align paper."

"Use wide paper if at all possible, it saves paper."

"Enter paper width, W = Wide (14")   N = Narrow (8 1/2")."

Next you will be asked

"Please indicate which file you wish to sort and print"

Site = S Summary = U

Visit = V Telemetry = T

Owl = O

Once the file is printer, the computer will ask

"Do you wish to sort and print additional files? Y/N"

If you answer Y, the computer will begin by asking you paper size. If you answer N, the computer will return to the Reports Menu

SITE DATA FILE ENTRY SCREEN

SPOTTED OWL SITE DATA FILE

LOC. NAME _____ **MASTER SITE #** _____ **ALTERNATE LOC.** ____

DISTRICT SITE # ____ **SPECIES** _____ **DISTRICT** __*__ **RESOURCE AREA** _____

SITE LOCATION: TOWNSHIP _____ **RANGE** _____ **SECTION** ___
QUARTER SECTION_____ **SIXTEENTH SECTION**_____
STATE PLANE X _____ **STATE PLANE Y** _____
UTM X _____ UTM Y _____

PRIMARY SITE LANDOWNER: LEVEL 1 ____ **LEVEL 2** _____ **LEVEL 3** _____
SECONDARY SITE LANDOWNER: LEVEL 1 ____ LEVEL 2 _____ LEVEL 3 _____
OTHER LANDOWNERS OF SIGNIFICANCE? ____

COUNTY _____ **STATE WILDLIFE REGION** _____ **GEOGRAPHIC PROVINCE** _____

MANAGEMENT STATUS: 1988 ODFW AGREEMENT _____ **1983 ODFW AGREEMENT** ____
HCA CATEGORY_____ **HCA ID#**_____
DCA CATEGORY_____ **DCA ID#**_____
CHU STATUS_____ **CHU ID#**_____
AREA OF CONCERN_____ EA____ HISTORIC ____

SPOTTED OWL SITE DATA FILE Page 2

YEARS OF USE:

72 ___	73 ___	74 ___	75 ___	76 ___	77 ___
78 ___	79 ___	80 ___	81 ___	82 ___	83 ___
84 ___	85 ___	86 ___	87 ___	88 ___	89 ___
90 ___	91 ___	92 ___	93 ___	94 ___	95 ____

OWL DATA: **YEAR OWLS FIRST LOCATED** _____ **EXISTING PAIR (SINCE 1985)?** _____
YEAR PAIR LAST VERIFIED _____ **YEAR PAIR LAST REPRODUCED** _____

HABITAT DATA: PREHARVEST OWL ACRES

	FEDERAL	PRIVATE
WITHIN RADIUS	_____	_____
WITHIN 0.7 MI	_____	_____
BETWEEN 0.7 MI AND RADIUS	_____	_____

COMMENTS ENTERED (Y/N) ____ COMMENTS memo ENTRY DATE __/__/__

* filled in by computer if you use the entry program.
BOLD - to be collected by all westside Oregon biologists. Other variables may be collected at the discretion of each district or biologist.

INSTRUCTIONS AND CODES FOR SPOTTED OWL SITE DATA FILE

GENERAL INSTRUCTIONS

Designating sites

A spotted owl site is defined as a location with evidence of continued use by owls. Information on all spotted owl responses from annual surveys will be recorded in the Visit and Owl files of the database, but not all responses may lead to the designation of a site. In order for a site to be designated, the response information from the surveys must satisfy the criteria for site designation described below. Responses that do not meet the 'Site' definition will be retained in the Visit and Owl files as historical data on an 'incidental location' to be supplemented with additional information through future surveys at the location. Over time these incidental locations may be considered for site designation based on the available response information. Only designated sites(those with master site numbers) will be maintained in the Site and Summary files of the database.

Site - Any location of breeding spotted owls, repeated location of a pair or single birds during a single season and/or over several years, presence of young before dispersal, or some other strong indication of continued occupation. These locations are assigned a four digit master site number by the Oregon Department of Fish and Wildlife, Northwest Region Office in Corvallis. Responsibility for determining when a set of locations warrant site designation lies with the biologist(s) most familiar with the location data.

Temporary Site - a location for which there are repeated owl responses over time, but the response information is not conclusive enough to warrant site designation. Temporary site status may be used at the biologist's discretion as an interim classification between incidental locations and site designation. Temporary sites may be carried in the Site and Summary files, but they will not be carried in the Automated Resources Data (ARD) system which will contain information on only designated sites. These locations are assigned temporary master site numbers by District. Refer to the explanation of the Master Site Number field in the Site file section of this manual for number series by District.

Incidental Location - Response(s) of one or more owls documented at other than a designated site and response information is insufficient to substantiate site designation. Incidental locations would include any responses that cannot be associated with a particular site, such as nighttime responses that occurred between 2 known sites.

Enter all incidental locations and corresponding response data in the Visit and Owl files with the generic Master Site Number (MSNO), 9999. The location may be named for your convenience. There will be no specific information in the Site or Summary files for these locations. If a site is designated for the location in the future, a Site record will be created and the generic MSNO (9999) replaced with an official MSNO in the Visit and Owl files. This process will guard against creating sites around nonresident or non-territorial birds.

Site Center/Alternate Centers

The Site Center is the point entered in ARD for each site. Ideally, the Site Center should be a known nest site, or core area used by young. On sites where no nesting has been recorded, rely on the best information available to plot the point representing the Site Center. The Site Center location in ARD will be linked with the Site and Summary files for use in planning.

In most cases there will be a single Site Center for each site over time. However, where the owl's center of activity/nest grove has moved sufficiently to change some of the Site file information (e.g., location, landowner, administrative designation, etc.) an additional center may be designated for the site. An alternate Site Center will normally result from the location of a new nest tree or newly-fledged juveniles at a new location for a previously known pair, but change of ownership or movement into or out of a land classification such as critical habitat is also a reason for designating an alternate Site Center. In the absence of any administrative considerations, the off-site locations of adults, regardless of how consistent, does not warrant a Site Center change without additional evidence (loss of historic Site Center due to habitat degradation and the owls now occupy an adjacent suitable habitat location). The same criterion applies to older juveniles because they are mobile.

Until you find a new nest grove, leave the Site Center where it was originally designated if some habitat is still present. If the original site center was not based on a nest grove, and you later find a nest, edit the Site record to reflect the new information and move the site center in ARD rather than assign an Alternate Site Center. As in other cases, the biologists should use their professional judgment in applying these rules.

Annual Edit

Some of the fields in the Site file contain information that changes over time. These fields include PAIR, PAYR, REPRO, and all variables that contain federal or private acres of habitat. These fields MUST be checked at the end of each season and updated if necessary. Acreage figures should be reduced to reflect any sold timber sales as soon after the sale as practical or you may remove the data after you have used it for the appropriate consultations. The data should NOT be retained in the database UNLESS it is updated periodically.

Field Names

Several location fields have slightly different names than similar fields in the Visit and Owl files. These fields represent different information. Site file data corresponds to the chosen site center while Visit file data is for actual owl detections. To avoid confusion if files are merged, the fields are named differently.

CODES

LOCATION NAME (LOCNAME) - Assign names to the sites within your district. The field is limited to 20 characters so abbreviate, as needed. Use historic names or assign new site names based on the closest geographic landmark. Try not to name sites after timber sales unless sale name corresponds to geographic location. Avoid designating sites as I or II. Use relative location to distinguish between sites near the same landmark (e.g., Upper Martin Creek, Lower Little Wolf, North Martin, etc.)

MASTER SITE NUMBER (MSNO) - A state-wide numbering system consisting of a 4 digit Master Site Number is assigned to each designated site under a statewide numbering system coordinated by the Oregon Department of Fish and Wildlife, Northwest Region Office. For older sites, use the number on the ODFW nongame database. If you have a copy of the database, pull the already assigned numbers from that database. Be sure to check the location (T-R-Sec) as well as the name as some names have mutated over the years. Make a list of the sites without numbers and David Johnson, (737-4186) Corvallis ODF&W, will assign numbers. When you locate new sites, temporarily assign them values in the 4000s for Salem, 5000s for Eugene, 6000s for Coos Bay, 7000s for Roseburg, 8000s for Medford, or 9000s for Lakeview. You can replace them with Master Site Numbers as soon as the site has been designated and the number assigned by ODFW. Incidental locations should not be entered in this file. Strive to obtain sufficient information to convert all temporary site numbers to permanent numbers at the end of the season, as only those with permanent site numbers are included in the GIS. If sufficient information is not obtained, maintain the response records in the Visit and Owl files.

ALTERNATE LOCATION (AL) - A letter code assigned in conjunction to the master site number indicating whether there is more than 1 site record for a particular site, ie. there are alternate Site Center locations. See General Instructions (page 17) for information on when designation of Alternate Site Locations is appropriate. In a few cases data may be sufficient to indicate a location is not incidental but the biologist is not yet able to designate a site. In these cases, use the temporary (T) designation. However, avoid the common use of temporary sites, if at all possible. In these cases, the AL field may be used to indicate a temporary site.

(blank) - First (oldest) location
A - 2nd location
B - 3rd location
(Etcetera)
T - temporary site

DISTRICT SITE NUMBER (DSNO) - Feel free to assign this for your area or district as you see fit. Up to 3 spaces. Use historic numbers if you have them to reduce possible confusion.

SPECIES (SPEC) - Enter appropriate code.

STOC - Northern Spotted Owl
STVA - Barred Owl
STNE - Great Gray Owl
STXX - Spotted Owl - Barred Owl hybrid, any generation
STUN - Strix unknown species
BUVI - Great Horned Owl

For additional species, Refer to Part 5 in the U.S. Fish and Wildlife Service North American Bird Banding Manual, Volume 1, March 1991.

DISTRICT (DIST) - The BLM District which is entering the data, regardless if the site location is on public or private lands. Use the same values as in ARD. This will be inputted at the beginning of each entry session via some prompts, so you will not need to add it to each record.

RESOURCE AREA (RES) - As above, for the Resource Area on which the site occurs, regardless of ownership. Because this will differ within districts, manual entry will be necessary. We are using the same values as in ARD. If a Resource Area lies within 2 Master Units, we have chosen the to use the code for the most common Master Unit to represent the entire Resource Area. Note that letter codes replace number codes for data entered post-1990.

BLM Resource Areas Obsolete Resource Areas and/or Codes are marked with [ ]

Resource Area	Master Unit	Old Code	New Code
Coos Bay			
Umpqua River	South Coast	[453]	UR
Tioga	South Coast	[454]	TI
Myrtlewood	South Coast	[456]	MY
Eugene			
McKenzie	Upper Willamette	[231]	MC
South Valley	Upper Willamette	[232]	SV
	[Siuslaw	243]	
Coast Range	Siuslaw	[244]	CR
Medford			
Grants Pass	Josephine	[511]	GP
	[Jackson	521]	
	[South Coast	457]	
Glendale	Josephine	[513]	GL
Ashland	[Josephine	515]	
	Jackson	[525]	AS
	[Klamath	534]	
Butte Falls	Jackson	[526]	BF
	[Josephine	516]	
Roseburg			
North Umpqua	Douglas	[351]	NU
Drain	Douglas	[352]	DR
Dillard	Douglas	[353]	DI
	[South Umpqua	343]	
South Umpqua	[Douglas	354]	
	South Umpqua	[344]	SU
Salem			
Tillamook	Columbia	[111]	TL
Yamhill	[Columbia	112]	
	Alsea-Rickreall	[172]	YA
Alsea	Alsea-Rickreall	[173]	AL
Clackamas	Clackamas-Molalla	[144]	CL
	[Santiam River	184]	
Santiam	Santiam River	[185]	SA
Lakeview			
Klamath	Klamath	[834]	KL

SITE LOCATION - TOWNSHIP (LOCT) - A 4 digit code for the core area, nest site, or whatever point you use on the map for the site center. Enter Township in the first 2 spaces, right justify, and add a 0 at the start if the number is below 10. The 3rd space is for partial townships, enter 5 if it is a 1/2 township or 0 if it is a whole township. The 4th place is for N or S. Examples T 6 S = 060S T 7 1/2 S = 075S T 10 1/2 S = 105S

SITE LOCATION - RANGE (LOCR) - Same format as for township.

SITE LOCATION - SECTION (LOCS) - 2 digit code indication section. e.g. section 3 = 03.

SITE LOCATION - QUARTER SECTION (LOCQS) - 2 letter code indication of quarter section e.g. northwest quarter of section = NW
NW - northwest
NE - northeast
SW - southwest
SE - southeast

SITE LOCATION - SIXTEENTH SECTION (LOCSS) - 2 letter code indication of sixteenth section e.g. southwest quarter of northwest quarter = SW
NW - northwest
NE - northeast
SW - southwest
SE - southeast

SITE LOCATION - STATE PLANE COORDINATE - X (SSPX)
SITE LOCATION - STATE PLANE COORDINATE - Y (SSPY)

7 digit code for the site center location in state plane coordinates in meters. This information is important for interface with ARD. We should be able to get ARD to convert from UTM to SP or back, so you only need to enter 1 set. You can also get these coordinates from AutoCAD when you digitize the plot centers.

SITE LOCATION - UTM COORDINATE - X (SUTMX)
SITE LOCATION - UTM COORDINATE - Y (SUTMY)

5 (X) and 6 (Y) digit code for site center in UTM coordinates. Up to the District as to whether to enter this. A typical entry of UTMX would be 536.23. The last digit is a 10 m accuracy. If you do not feel that you can be this accurate, fill the last place(s) with 0.

PRIMARY AND SECONDARY SITE LANDOWNERS - LEVEL 1 (**SP1**, SS1) - A 2 digit code indicating major landowner or agency administering land at the nest site, core area, or whatever point you use on the map for the site center.

01 - Oregon Department of Fish and Wildlife
02 - Oregon State Department of Forestry
03 - Oregon State Land Board
04 - Oregon State Park
05 - US Forest Service - Region 5
06 - US Forest Service - Region 6
07 - Bureau of Land Management
08 - US Fish and Wildlife Service
09 - US Park Service
10 - US Army Corps of Engineers

PRIMARY AND SECONDARY LANDOWNERS (Cont'd)

11 - Nature Conservancy
12 - Indian Reservation
13 - Oregon State University
14 - Municipality
15 - Private
16 - Washington Department of Wildlife
17 - Other
18 - Washington Department of Natural Resources

PRIMARY AND SECONDARY SITE LANDOWNERS - **LEVEL 2** (**SP2**, SS2) - 3 digit code for secondary level of land ownership, such as National Forest, BLM District, Private Company, Municipality, Reservation, etc. for the nest site, core area, or whatever point you use on the map for the site center.

001 - Gifford Pinchot NF
002 - Mt Baker-Snoqualmie NF
003 - Olympic NF
004 - Colville NF
005 - Okanogan NF
006 - Wenatchee NF
007 - Mt Hood NF
008 - Willamette NF
009 - Siuslaw NF
010 - Umpqua NF
011 - Rogue River NF
012 - Siskiyou NF
013 - Deschutes NF
014 - Wimena NF
015 - Fremont NF
016 - Six Rivers NF
017 - Shasta Trinity NF
018 - Klamath NF
019 - Mendocino NF
020 - Modoc NF
044 - Malheur NF
045 - Ochoco NF
046 - Umatilla NF
047 - Wallowa-Whitman NF

021 - North Cascades NP
022 - Olympic NP
023 - Mount Rainier NP
027 - Spokane BLM
028 - Salem BLM
029 - Eugene BLM
024 - Crater Lake NP
025 - Oregon Caves NM
026 - Redwood NP
031 - Coos Bay BLM
032 - Medford BLM
033 - Redding BLM

034 - Ukiah BLM
030 - Roseburg BLM
084 - Lakeview BLM
035 - City of Corvallis
036 - Weyerhauser
037 - International Paper
038 - Crown Zellerbach
039 - Georgia Pacific
040 - Willamette Industries
041 - Publishers
042 - US Plywood
043 - City of Portland
067 - Douglas County Lumber Co.
068 - George Bellows
069 - Giustina Brothers
070 - Gregory Timber Resources
071 - Hanna Timber Resources
072 - Lone Rock Timber Co.
073 - Moore Mill
074 - Superior Lumber Co
075 - Sun Studs
076 - Whipple
077 - Woolley Enterprises
078 - MEDCO

048 - Fall City Timber
049 - Fergusen Logging Co. of Albany
050 - Seneca
052 - Roseburg Lumber Co.
053 - Richardson Co., Fall River
055 - Young and Morgan
056 - Boise Cascade
057 - Champion International
058 - Harry Clayton (Estate)
079 - Timber Products
080 - T and L
081 - Spaulding
082 - Rough and Ready
083 - Mountain Fir
085 - City of Riddle
086 - Hill Family
087 - Avery Lumber Company
088 - Kilchis County Parks
089 - Rosboro Lumber Co.

059 - Samuel Morrison
090 - South Coast Lumber Co.

PRIMARY AND SECONDARY LANDOWNERS (Cont'd)

060 - Dayton Hyde
061 - Trail Creek Lumber Co.
091 - Campbell Group/Hancock Properties
062 - KOGAP Timber Co.
063 - Longview Fibre
064 - Elliot State Forest
065 - Arant Logging Co.
066 - C & D Lumber

PRIMARY AND SECONDARY SITE LANDOWNERS - **LEVEL 3** (**SP3**, SS3) - 3 digit code indicating Forest Service District of BLM Resource Area for the nest site, core area, or whatever point you use on the map for the site center.

USFS Districts and areas

001 - Alsea
002 - Applegate
003 - Ashland
004 - Baker
005 - Barlow
006 - Bear Springs
007 - Bear Valley
008 - Bend
009 - Big Summit
010 - Blue River
011 - Bly
012 - Burns
013 - Butte Falls
014 - Chemult
015 - Chetco
016 - Chiloquin
017 - Clackamas
018 - Columbia Gorge
019 - Cottage Grove
020 - Crescent
021 - Crooked River NG
022 - Dale
023 - Detroit
024 - Diamond Lake
025 - Eagle Cap
026 - Estacada
027 - Fort Rock
028 - Galice
029 - North Umpqua
030 - Gold Beach
031 - Hebo
032 - Hells Canyon
033 - Heppner
034 - Hood River
035 - Illinois Valley
036 - Klamath
037 - LaGrande
038 - Lakeview
039 - Long Creek
040 - Lowell
041 - Mapleton
042 - McKenzie
043 - Oakridge
044 - Oregon Dunes NRA
045 - Paisley
046 - Paulina
047 - Pine
048 - Pomeroy
049 - Powers
050 - Prairie City
051 - Prineville
052 - Prospect
053 - Rigdon
054 - Silver Lake
055 - Sisters
056 - Snow Mountain
057 - [Steamboat OBSOLETE]
058 - Sweet Home
059 - Tiller
060 - Ukiah
061 - Union
062 - Unity
063 - Waldport
064 - Walla Walla
065 - Wallowa Valley
066 - Zigzag
091 - Hood Canal
092 - Quilcene
093 - Quinault
094 - Soleduck

BLM Resource Areas

Resource Area	Master Unit	Code
Coos Bay		
Umpqua River	South Coast	453

Tioga	South Coast	454	
Myrtlewood	South Coast	456	

RESOURCE AREAS (Cont'd)

Eugene			
McKenzie	Upper Willamette	231	
South Valley	Upper Willamette	232	
	[Siuslaw	243]	(OBSOLETE)
Coast Range	Siuslaw	244	
Medford			
Grants Pass	Josephine	511	
	[Jackson	521]	(OBSOLETE)
	[South Coast	457]	(OBSOLETE)
Glendale	Josephine	513	
Ashland	[Josephine	515]	(OBSOLETE)
	Jackson	525	
	[Klamath	534]	(OBSOLETE)
Butte Falls	Jackson	526	
	[Josephine	516]	(OBSOLETE)
Roseburg			
North Umpqua	Douglas	351	
Drain	Douglas	352	
Dillard	Douglas	353	
	[South Umpqua	343]	(OBSOLETE)
South Umpqua	[Douglas	354]	(OBSOLETE)
	South Umpqua	344	
Salem			
Tillamook	Columbia	111	
Yamhill	[Columbia	112]	(OBSOLETE)
	Alsea-Rickreall	172	
Alsea	Alsea-Rickreall	173	
Clackamas	Clackamas-Molalla	144	
	[Santiam River	184]	(OBSOLETE)
Santiam	Santiam River	185	
Lakeview			
Klamath	Klamath	834	

OTHER LANDOWNERS (OL)

0 - no other landowners present of significance to management of the site.
1 - other landowners present of significance to management of the site

COUNTY - OREGON (CO) - Enter appropriate code.

01 - Baker	19 - Lake
02 - Benton	20 - Lane
03 - Clackamas	21 - Lincoln
04 - Clatsop	22 - Linn
05 - Columbia	23 - Malheur
06 - Coos	24 - Marion
07 - Crook	25 - Morrow
08 - Curry	26 - Multnomah
09 - Deschutes	27 - Polk
10 - Douglas	28 - Sherman
11 - Gilliam	29 - Tillamook

12 - Grant
13 - Harney
14 - Hood River
15 - Jackson
30 - Umatilla
31 - Union
32 - Wallowa
33 - Wasco

COUNTY (Cont'd)
16 - Jefferson
17 - Josephine
18 - Lake
34 - Washington
35 - Wheeler
36 - Yamhill

STATE WILDLIFE REGION - OREGON (R) - Enter appropriate code. Maps are provided in this manual, Appendix A.

1 - Northwest
2 - Southwest
3 - Central
4 - Northeast
5 - Southeast
6 - Marine
7 - Columbia

GEOGRAPHIC PROVINCE (PR)- Enter appropriate code. General maps are included in this manual.

01 - Coast Ranges
02 - West Slope Oregon Cascades
03 - Marine (ie. offshore islands)
04 - Klamath Mountains
05 - Willamette Valley
06 - Rogue Valley (local subset of Klamath)
07 - Medford Valley Area (local subset of Klamath)
08 - East Slope Oregon Cascades
09 - High Lava Plains/Great Basin
10 - Blue Mountains
11 - Basin and Range
12 - Owyhee Uplands
13 - Olympic Peninsula
14 - Puget Trough
15 - Southern Washington Cascades
16 - Northern Washington Cascades
17 - Okanogan Highlands

STATUS - AGREEMENT OWLS (1987) (AP) - Enter appropriate code. Sites designated for recent (1987-1990) agreement with ODFW. Refer to appendix E for list of sites under the agreement.

0 - Not covered by BLM-ODFW agreement or Section 318
1 - BLM-ODFW agreement site
2 - Section 318 site

MANAGEMENT STATUS - SOMA/MONITORING 1983 AGREEMENT (MS) - Enter appropriate code. This is for sites designated for the original agreement with Oregon Department of Fish and Wildlife (ODFW).

S - SOMA pair/site
M - Additional monitoring pair/site
N - no SOMA or monitoring status

HCA CATEGORY (HCACAT) - Enter the number corresponding to the HCA category Refer Thomas, J.W. et.al. 1990 Conservation Strategy for the Northern Spotted Owl

1 - within an HCA 1
2 - within an HCA 2
3 - designated HCA 3
4 - designated HCA 4 (pair between 1985 and 1989)

9 - Not within or designated an HCA 1 through 4, but with a pair in 1990 or later. (these are sites that would qualify as a HCA 4 if we included 1990 or later data)
0 - not qualified as one of the above categories

DCA CATEGORY (DCACAT) - Enter the number corresponding to the DCA Category Refer to Spotted Owl Recovery Plan when final.

1 - within a DCA 1
2 - within a DCA 2
3 - designated Reserve Pair Area
4 - designated Residual Habitat Area

CHU STATUS (CHUST) - Enter Y if site occurs on lands designated as critical habitat within the boundary of a Critical Habitat Unit, N if it does not. Note that not all lands in a CHU are designated critical habitat. Check Fish and Wildlife Sevice Final Rule for specifics. Refer to U.S. Fish and Wildlife Service, 1991. Critical habitat for the northern spotted owl maps and legal descriptions. USFWS, Portland, OR. 28p.

HCA IDENTIFICATION NUMBER (HCAID) - Enter the HCA identification number for the site if it falls within an HCA 1 or 2. Refer to Thomas et.al. (1990) for numbers. Use the same format, letter, dash, number e. g. O-16. For HCA 3 sites record the number of the HCA 1 or HCA 2 that they are providing pair support for. For HCA 4 sites or HCACAT 9 sites above, record the site Identification Number (IDNO).

DCA IDENTIFICATION NUMBER (DCAID) - Enter the DCA identification number for the site if it falls within a DCA 1 or 2. Refer to the Northern Spotted Owl Recovery Plan for numbers. Use the same format, letter, dash, number e.g., OD-16. For Reserve Pair Areas, record the number for the DCA 1 or DCA 2 that they are providing pair support for. For Residual Habitat Areas, record the site Identification Number (IDNO).

CHU IDENTIFICATION NUMBER (CHUID) - Enter the CHU identification number for the site if it occurs on lands designated as critical habitat within a CHU. Use the same format, letter, dash, number e. g. OR-16. Refer to the U.S. Fish and Wildlife Service maps in the Final Rule on Determination of Critical Habitat for the Northern Spotted Owl for CHU numbers. Refer to U.S. Fish and Wildlife Service, 1991. Critical habitat for the northern spotted owl maps and legal descriptions. USFWS, Portland, OR. 28p.

AREA OF CONCERN (AOC) - Enter the appropriate code if the site lies within any of the following regional or local areas of concern. Refer to BLM ARD map titled Areas of Concern.

I5	I-5/Ashland
SP	Santiam Pass
CG	Columbia Gorge
CR	Coast Range
SW	South Willamette/North Umpqua
RU	Rogue/Umpqua
LR	Little River local area of concern

STATUS - EA SITE (EA) - Enter appropriate code. Refer to Appendix F for list of sites in the 1986 Spotted Owl EA.

0 - Sites known in 1986 or earlier, but not analyzed in EA
1 - Sites analyzed in EA
2 - Sites found after EA (1986)

STATUS - HISTORIC SITE (HI) - This may not be of interest to all districts.

Roseburg uses it to track sites found in the mid 70's. Entry in this field is not mandatory.

0 - Site found after 1978
1 - Site found before/during 1978

YEARS OF SURVEY Y72 - Y90 - This field is now strictly optional. These were originally designed to link records in the Visit file to the correct record from the Site file. We can now use the IDNO to accomplish this more efficiently. If this field is used, beginning with the first year a site was surveyed, and for all subsequent years, enter one of the following codes. You may enter a N for those years before a site was surveyed.

N - not surveyed
1 - record appropriate for that year
0 - record not appropriate for that year, refer to alternate site record. A '0' code will only be used if a site core area, as indicated by a new nest tree or newly fledged young, moves far enough to change some information in the Site file. Movements in non-nesting years should not be considered a change of core area without substantial evidence. See the General Instructions for more detail.

If movement does occur, enter a 0 in the existing site record for the appropriate year and create a NEW site record with the changes. DO NOT simply edit the existing site record. Enter a 1 in the appropriate year for the new record and a 0 for all previous years in the new record. If a pair uses a new core area in 1 year, then returns to the old core area in later years, enter a 1 in the record appropriate for each year and a 0 in the other. Use your discretion as to which site was used in the intervening years. However, generally maintain the most recent nest site until the next nesting attempt. Once 2 or more records are created, only 1 should contain either a 1 or N in any year, the other should be 0.

Example: Pair A was found nesting at site center 1 in 1976, did not nest in 1977, nested at site center 2 in 1978, were not found in 1979, no survey was conducted in 1980, nested at site 1 in 1981, and did not nest in 1982 or 1983. The records would appear as follows:

Site	Y74	Y75	Y76	Y77	Y78	Y79	Y80	Y81	Y82	Y83
1	N	N	1	1	0	0	0	1	1	1
2	0	0	0	0	1	0	N	0	0	0
				MOVED				MOVED		

The information in these variables does NOT indicate what was found on a site, just whether it was surveyed and which record is appropriate where more than 1 exists.

YEAR OWLS FIRST LOCATED (YL) - Enter the last 2 digits of the year in which an owl(s) were first located on the site. (e. g. if the site was found in 1988, enter 88).

EXISTING PAIR? (PAIR) - Enter the appropriate code. Utilize the information contained in the Pair Status (PA) field of the Summary file to make this determination.

P - if the PA field in Summary file shows a 'P' or 'A' on the site at

least 1 year since 1985,

2 - if the PA field in the Summary file shows a 'U',pair status unknown, at least once since 1985 and no 'P' or 'A' were recorded during this period. If an 'S' or 'B' were recorded in addition to the 'U' use this code.

S - if the PA field in the Summary file shows an 'S' or 'B' denoting that a territorial single has been verified on the site since 1985 and no 'P', or 'A' were recorded during that time. If a 'U' was recorded along with and 'S' or 'B' use code "2" above.

N - if no 'P', 'A', 'S','B' or 'U' are recorded in the PA field of the Summary file since 1985.

YEAR PAIR LAST VERIFIED (PAYR) - Enter the year in which a pair was last confirmed on the site. Use only the last 2 digits of the year e.g., 1990 = 90. Refer to the Pair Status field of the Summary file for information. Enter 00 if no pair has been verified on the site.

LAST YEAR REPRODUCTION CONFIRMED (REPRO) - Enter the last 2 digits of the last year when a pair was known to successfully reproduce on the site. Successful reproduction is defined as confirmed fledged young, that is, young out of the nest tree. Refer to the Number of Fledglings (NFG) field of the Summary file for reproduction information on sites after 1990. For information on sites in 1990 and earlier assume the Number of Juveniles field (NJ) in the Summary file denotes the number of fledged young. Enter 00 if a pair has never been confirmed to have successfully fledged young on the site.

***** = The following fields marked with the * are optional and need only be entered if being used in an assessment of a FY90, or later, timber sale, e. g. site lies within the radius for the physiographic province of any sale unit or associated right of way. If used, these fields **MUST** be updated annually or removed annually.

* FEDERAL PREHARVEST ACRES WITHIN APPROPRIATE RADIUS (FACRAD) - Enter the number of acres of suitable spotted owl habitat (generally 80+ years of age) on federal lands within a circle with the appropriate median home range radius listed below by physiographic province. Include all acres on federally administered lands.

Olympic Peninsula	2.2 miles
Washington Cascades	1.8 miles
Oregon Cascades	1.2 miles
Oregon Coast Range	1.5 miles
Klamath Province	1.3 miles

Assume all sold and uncut acres have been harvested, including all previous fiscal year sales, whether sold yet or not. Enter the acres without commas e. g.. 1,200 acres would be entered as 1200. You only need to enter data in this field when a sale is of concern for consultation with US Fish and Wildlife Service. You do not need to compute this for all owls.

* OTHER PREHARVEST ACRES WITHIN APPROPRIATE RADIUS (OACRAD) - Enter the number of acres of suitable spotted owl habitat (generally 80+ years of age) within a circle on lands not administered by the federal government (e. g. private, state, county, etc.) with the appropriate median home radius by physiographic province (see above). Enter the acres without

commas e. g.. 1,200 acres would be entered as 1200. Enter only if you are calculating this data already, as for a USFWS consultation. You do not need to compute this for all owls. Do the best you can in the timeframe allowed.

* FEDERAL PREHARVEST ACRES WITHIN 0.7 MILES (FAC07) - Enter the number of acres of suitable spotted owl habitat (generally 80+ years old) on federal lands within 0.7 miles of the site center. Assume all sold, uncut, and previous fiscal year sale units have been harvested. Do not use commas. Enter only if you are calculating this data already, as for a USFWS consultation.

* OTHER PREHARVEST ACRES WITHIN 0.7 MILES (OAC07) - Enter the number of acres of suitable spotted owl habitat (generally 80+ years old) on lands not administered by the federal government (e. g. private, state, county, etc.) within 0.7 miles of the site center. Do not use commas. Enter only if you are calculating this data already, as for a USFWS consultation. Do the best you can in the timeframe allowed.

* FEDERAL PREHARVEST ACRES BETWEEN 0.7 MILES AND APPROPRIATE RADIUS (FAC07P) -Enter the number of acres of suitable spotted owl habitat (generally 80+ years old) within the "doughnut" from 0.7 to the limit of the median home range radius for the appropriate province (see FACRAD above). Assume all sold, uncut, and previous fiscal year sale units have been harvested. Do not use commas. Enter only if you are calculating this data already, as for a USFWS consultation.

* OTHER PREHARVEST ACRES BETWEEN 0.7 MILES AND APPROPRIATE RADIUS (OAC07P) - Enter the number of acres of suitable spotted owl habitat (generally 80+ years old) on lands not administered by the federal government (e. g. private, state, county, etc.) within the "doughnut" from 0.7 to the limit of the median home range radius for the appropriate province (see FACRAD above). Do not use commas. Enter only if you are calculating this data already, as for a USFWS consultation. Do the best you can in the timeframe allowed.

[* 70 ACRES ESTABLISHED? (AC70) - Enter Y if a 70 (or 80) acre core has been identified around the site center and will remain after all sold, uncut, and current fiscal year units are harvested. Enter N if no core has been specifically established or sufficient habitat will not remain. Enter only if you are calculating this data already, as for a USFWS consultation.] OBSOLETE

RESERVED LANDS (RESL) - Enter Y if the site and area within 0.7 miles of the site center lies wholly on reserved lands. Reserved lands are areas withdrawn at the Director level or higher, for example, wilderness areas, national recreation areas, national monuments, wild and scenic rivers, research natural areas, etc. Enter P if part of the 0.7 mile radius area lies on reserved lands. Enter N if the site and 0.7 mile surrounding area lies wholly outside a reserved area. Enter only if you are calculating this data already, as for a USFWS consultation. This is strictly optional and will be dropped from the entry screen.

COMMENTS ENTERED? (COM) - Enter whether the memo field contains comments or not.

Y - yes, comments are entered
N - no, no comments entered

COMMENTS (COMMENT) - Memo field. If you have comments to enter, press (ctrl) PgDn and type the comments. When you finish, press (ctrl) End or (ctrl) W. Enter only major comments nor covered by codes.

ENTRY DATE (ENTDATE) - This will be entered once at the start of each entry session. DO NOT add it to existing records. It's not that important, just a help.

IDENTIFICATION NUMBER (IDNO) - A unique number used for the connecting various files and the interface with GIS. If you use the entry program we have provided, the IDNO will be created by the computer as a direct combination of the Master Site Number and Alternate Location fields. If you do not, you will need to enter it in edit or browse mode. For example, a site with MSNO = 1226 and AL = A would have IDNO = 1226A. Site 1227, with only 1 site center, would be 1227.

SPOTTED OWL DBASE III FILE STRUCTURE

SITE DATA FILE

VARIABLE CODE	DEFINITION	SIZE	DATA TYPE
LOCNAME	LOCATION NAME	20	AN
MSNO	MASTER SITE NUMBER	4	I
AL	ALTERNATE LOCATION	1	AN
DSNO	DISTRICT SITE NUMBER	4	I
SPEC	SPECIES	5	C
DIST	DISTRICT	3	I
RES	RESOURCE AREA	3	I
LOCT	SITE LOCATION - TOWNSHIP	4	AN
LOCR	SITE LOCATION - RANGE	4	AN
LOCS	SITE LOCATION - SECTION	2	I
LOCQS	SITE LOCATION - QUARTER SECTION	2	C
LOCSS	SITE LOCATION - SIXTEENTH SECTION	2	C
SSPX	SITE LOC - STATE PLANE X	7	I
SSPY	SITE LOC - STATE PLANE Y	7	I
SUTMX	SITE LOC - UTM X	5	I
SUTMY	SITE LOC - UTM Y	6	I
CO	COUNTY	2	I
R	STATE WILDLIFE REGION	2	I
PR	GEOGRAPHIC PROVINCE	2	I
SP1	PRIMARY SITE LANDOWNER - LEVEL 1 (BLM)	2	I
SP2	PRIMARY SITE LANDOWNER - LEVEL 2 (DIST)	3	I
SP3	PRIMARY SITE LANDOWNER - LEVEL 3 (AREA)	3	I
SS1	SECONDARY LANDOWNER LEVEL 1	2	I
SS2	SECONDARY LANDOWNER LEVEL 2	3	I
SS3	SECONDARY LANDOWNER LEVEL 3	3	I
OL	OTHER LANDOWNERS	1	I
AP	STATUS - AGREEMENT PAIR - 1988	1	I
MS	MANAGEMENT STATUS	1	I
HCACAT	HCA CATEGORY	1	I
DCACAT	DCA CATEGORY	1	I
CHUST	CHU STATUS	1	C
HCAID	HCA ID NUMBER	5	AN
DCAID	DCA ID NUMBER	5	AN
CHUID	CHU ID NUMBER	5	AN
AOC	AREA OF CONCERN	2	AN
EA	STATUS - EA SITE	1	I
HI	STATUS - HISTORIC	1	I
Y72	SITE IN 1972	1	AN
Y73	SITE IN 1973	1	AN
Y74	SITE IN 1974	1	AN
Y75	SITE IN 1975	1	AN
Y76	SITE IN 1976	1	AN
Y77	SITE IN 1977	1	AN
Y78	SITE IN 1978	1	AN
Y79	SITE IN 1979	1	AN
Y80	SITE IN 1980	1	AN
Y81	SITE IN 1981	1	AN
Y82	SITE IN 1982	1	AN
Y83	SITE IN 1983	1	AN
Y84	SITE IN 1984	1	AN
Y85	SITE IN 1985	1	AN
Y86	SITE IN 1986	1	AN
Y87	SITE IN 1987	1	AN
Y88	SITE IN 1988	1	AN

	Y89	SITE IN 1989	1	AN
	Y90	SITE IN 1990	1	AN
	Y91	SITE IN 1991	1	AN
	Y92	SITE IN 1992	1	AN
	Y93	SITE IN 1993	1	AN
	Y94	SITE IN 1994	1	AN
	Y95	SITE IN 1995	1	AN
	YL	YEAR OWLS FIRST LOCATED	2	I
	PAYR	YEAR PAIR LAST VERIFIED	2	I
	PAIR	EXISTING PAIR	1	AN
	REPRO	YEAR PAIR LAST REPRODUCED	2	I
@	FACRAD	FEDERAL ACRES WITHIN RADIUS	5	I
@	OACRAD	OTHER ACRES WITHIN RADIUS	5	I
@	FAC07	FEDERAL ACRES WITHIN 0.7 MILES	5	I
@	OAC07	OTHER ACRES WITHIN 0.7 MILES	5	I
@	FAC07P	FEDERAL ACRES BETWEEN 0.7 AND RADIUS	5	I
@	OAC07P	OTHER ACRES BETWEEN 0.7 AND RADIUS	5	I
@	[AC70	70 ACRE CORE?] OBSOLETE	1	C
@	RESL	RESERVED LAND	1	C
	COMMENT	COMMENTS	10	AN
**	**ENTDATE**	ENTRY DATE	8	D
#	**IDNO**	IDENTIFICATION NUMBER	5	AN

BOLD - to be collected by all westside Oregon biologists. Other variables may be collected at the discretion of each district or biologist.

** entered by the computer for information provided at the start of the entry session, if you are using the entry program.

will be created by computer from existing variables, if you are using the entry program.

@ optional, only required for sites involved in a USFWS consultation. These variables need to be updated when the data changes or the numbers completely removed if they will not be updated.

ANNUAL SUMMARY DATA ENTRY SCREEN

LAST ENTRY: _____*_____ FOR __*__

SPOTTED OWL ANNUAL SUMMARY FILE

LOC. NAME _____ **MASTER SITE #** _____ **ALT LOCATION** ___

DISTRICT ___*____ **RESOURCE AREA** _____

SUMMARY YEAR 19___ **SPECIES** _____ **ENTRY DATE** __*__/__*__/__*__

 # OF VISITS: DAY _____ **NIGHT** ___

 # OF BIRDS: MALES ____ **FEMALES** ____ **PAIR STATUS** ____ **UNKNOWN SEX** ____

BANDING STATUS:
MALE 1 _____ **FEMALE 1** _____ **UNKNOWN SEX 1** _____
MALE 2 _____ **FEMALE 2** _____ **UNKNOWN SEX 2** _____
JUVENILE 1 _____ **JUVENILE 2** _____ **JUVENILE 3** _____

SEX OF REPLACEMENT BIRDS: 1ST _____ **2ND** _____ **3RD** _____
SEX OF SUBADULT BIRDS: 1ST _____ **2ND** _____ **3RD** _____
MORTALITY (M, F, OR J): 1ST _____ **2ND** _____ **3RD** _____

REPRODUCTION: NESTING SURVEY _____ **NESTING SURVEY TIME** _____
REPRODUCTIVE SUCCESS SURVEY _____ **REPRO SUCCESS SURVEY TIME** _____
NESTING STATUS _____
TREE LOCATION _____ **NEST NUMBER**_____
MAXIMUM # OF JUVENILES _____ **MAXIMUM # OF FLEDGLINGS** _____

RADIO: MALE ___ **FEMALE** ___ **JUVENILE 1** ___ **JUVENILE 2** ___

COMMENTS ENTERED? (Y/N) _____ COMMENTS memo

* filled in by computer if you use the entry program.

BOLD - to be collected by all westside Oregon biologists. Other variables may be collected at the discretion of each district or biologist.

INSTRUCTIONS AND CODES FOR SPOTTED OWL SUMMARY FILE

LOCATION NAME (LOCNAME) - Assign names to the sites within your district. This field limited to 20 characters, so abbreviate as needed. Use historic names or assign new sites names based on the closest geographic landmark. Try not to name sites after timber sales unless sale name corresponds to geographic location. Avoid designating sites as I or II. Use relative location to distinguish between sites near the same landmark (e. g. Upper Martin Creek, Lower Little Wolf, North Martin, etc.)

MASTER SITE NUMBER (MSNO) - A state-wide numbering system with a 4 digit code. Each site is assigned a number. For older sites, use the number on the ODFW nongame database. If you have a copy of the database, pull the already assigned numbers from that. Be sure to check the location (T-R-Sec) as well as the name, as some names have mutated over the years. Make a list of the sites without numbers and David Johnson, with ODF&W in Corvallis, will assign numbers. When you locate new sites, temporarily assign them values in the 4000s for Salem, 5000s for Eugene, 6000s for Coos Bay, 7000s for Roseburg, 8000s for Medford, or 9000s for Lakeview. You can replace them with the correct values as soon as the MSNO is assigned. Incidental sites should not be entered in this file. All Temporary site numbers should be converted to permanent numbers at the end of the season if sufficient data to support the conversion exists as sites in the Site file will be used on GIS.

ALTERNATE LOCATION (AL) - A code indicating whether there is more than 1 site record for a particular site, ie. there are alternate site center locations. See General Instructions for information on Alternate Site Locations. Alternate locations should only be designated if there is overwhelming evidence that the core use area of a site has moved substantially or if the distance moved regardless of how short has resulted in a change in administrative classification of the site. In a few cases data may be sufficient to indicate a location is not incidental but the biologist is not yet able to designate a site. In these cases, use the temporary (T) designation. However, avoid this if at all possible. Try to obtain information through additional visits to determine if the location is a site so that the temporary site classification is used sparingly.

(blank) - First (oldest) location
A - 2nd location
B - 3rd location
(Etcetera)
T - temporary site

MSNO		AL		IDNO
1227	+	Blank	=	1227
1227	+	A	=	1227A

DISTRICT (DIST) - The following are the codes for each district. These will be input once at the beginning of the entry session if you use the entry program.

Salem	080	Medford	110
Eugene	090	Coos Bay	120
Roseburg	100	Lakeview	834

RESOURCE AREA (RES) - Enter the correct code for the Resource Area in which the site occurs. These codes are by area, not master unit. Obsolete Resource Areas and/or Codes are marked with [ ].

Resource Area	Master Unit	Old Code	New Code
Coos Bay			
Umpqua River	South Coast	[453]	UR
Tioga	South Coast	[454]	TI
Myrtlewood	South Coast	[456]	MY
Eugene			
McKenzie	Upper Willamette	[231]	MC
South Valley	Upper Willamette	[232]	SV
	[Siuslaw	243]	
Coast Range	Siuslaw	[244]	CR
Medford			
Grants Pass	Josephine	[511]	GP
	[Jackson	521]	
	[South Coast	457]	
Glendale	Josephine	[513]	GL
Ashland	[Josephine	515]	
	Jackson	[525]	AS
	[Klamath	534]	
Butte Falls	Jackson	[526]	BF
	[Josephine	516]	
Roseburg			
North Umpqua	Douglas	[351]	NU
Drain	Douglas	[352]	DR
Dillard	Douglas	[353]	DI
	[South Umpqua	343]	
South Umpqua	[Douglas	354]	
	South Umpqua	[344]	SU
Salem			
Tillamook	Columbia	[111]	TL
Yamhill	[Columbia	112]	
	Alsea-Rickreall	[172]	YA
Alsea	Alsea-Rickreall	[173]	AL
Clackamas	Clackamas-Molalla	[144]	CL
	[Santiam River	184]	
Santiam	Santiam River	[185]	SA
Lakeview			
Klamath	Klamath	[834]	KL

YEAR OF SUMMARY (YR) - Enter last 2 numbers of year. ie. 1988 = 88.

SPECIES (SPEC) - Enter appropriate code.

STOC - Northern Spotted Owl
STVA - Barred Owl
STNE - Great Gray Owl
STXX - Spotted Owl - Barred Owl hybrid, any generation
STUN - Strix unknown species
BUVI - Great Horned Owl

For additional species, Refer to Part 5 in the U.S. Fish and Wildlife Service North American Bird Banding Manual, Volume 1, March 1991.

NUMBER OF DAY VISITS (DV) - Enter total number of daytime visits to the site during the reporting year. DO NOT include single visits that spanned both day and night (survey time = B). DO NOT include visits classified as additional (AD). These are not counted in the number of visits needed to complete occupancy, nesting and reproductive success surveys.

NUMBER OF NIGHT VISITS (NV) - Enter total number of nighttime visits to the site during the reporting year. Include visits that spanned both day and night (survey time = B). DO NOT include visits classified as additional (AD). See reason for not including above.

NUMBER OF MALES (NM) - Enter maximum number of males on 1 visit OR if banding indicates that more than 1 male settled on the site during a single season, number of individual males encountered during the season.

NUMBER OF FEMALES (NF) - Enter maximum number of females encountered, as described above.

PAIR STATUS (PA) - Enter the pair status of any birds detected during the season. Use the following definitions of status.

P - pair and/or 1 adult/subadult with young
U - male/female or 2 birds any sex- pair relationship unknown
A - pair plus additional adults/subadults
S - single bird present 2 or more times and 6 visits completed
B - single bird present 2 or more times, but 6 visits not completed
N - not occupied - at least 6 visits, 4 at night no response
Z - unknown occupancy - less than 6 visits or 6 visits but not 4 at night with no response.
X - unknown, does not meet any of above criteria.
(blank) - no birds encountered

Guidance for assignment of the above codes

PAIR (P or A) - Pair status is assigned by any one of the following:

1) a male and female are heard and/or observed in proximity (< 1/4 mile) to each other during **at least 2 individual visits** at least 1 week apart during the season.

2) a male takes a mouse to a female on **at least one visit** during the season. This criterion includes instances between March and June where the male takes a mouse to a candidate nest tree and enters a cavity presumably giving the mouse to a female even though she may not be seen or heard. If the observer has any question as to whether the cavity is a nest or a cache, additional information should be gathered to assist in determining pair status.

3) a female is detected (seen or heard) on a nest during **at least one visit** during the season.

4) one or both adults are observed with young on **at least one visit** during the survey season (presence of young alone is not sufficient evidence to establish pair presence since young barred owls look like spotted owl young. Later in the season (August) plumage can be used to distinguish the species of the young.).

5) a banded male and female confirmed on a site in a previous year are both present at the site (seen either together or singly) **on at least one visit** each during the season.

Resident Single - a resident single owl occupancy is comprised of two subcategories (S and B) used to separate survey effort. Both are considered equal in terms of describing resident single occupancy, but the 'S' category is definitive in describing lack of pair occupancy based on survey effort.

An 'S' is assigned to the site for the year-end summary when:

a) individual visits show detection of a single owl a minimum of 2 times separated by at least 1 week in any one year or with repeated detections (any combination totaling 3 in a two year period) in consecutive years. At least 1 of the 3 detections for consecutive year's data and 1 of the 2 for any single year's data must occur before August 1.

and

b) a total of six visits are completed in the current year without the detection of another owl of the opposite sex.

A 'B' is assigned for the year-end summary when:

a) individual visits show detection of a single owl a minimum of 2 time separated by at least 1 week in any one year or with repeated detections (any combination totaling 3 in a two year period) in consecutive years. At least 1 of the 3 detections for consecutive year's data and 1 of the 2 for single year's data must occur before August 1.

but

b) there were not six visits completed in the current year to determine whether another owl of the opposite sex was present.

Pair Status Unknown (U) - pair status unknown is assigned for the year-end summary when the individual visit information shows the detection of 2 owls of the opposite sex where at least one of the 2 will satisfy either of the resident single categories, but insufficient information is available to satisfy the pair classification criteria.

Not Occupied (N) - not occupied is assigned for the year-end summary when the visit information shows that at least six visits were made with 4 being at night and no response was detected.

Unknown Status (X) - an unknown status occupancy is assigned for the year-end summary whenever the individual visit information shows the detection of 1 owl (either sex) or 2 owls of the either sex, but information is insufficient to support the classification as a pair, resident single or pair status unknown.

Unknown Occupancy (Z) - unknown occupancy is assigned for the year-end summary when less than 6 visits are conducted or when there were at least six visits, but less than 4 at night and no response was detected.

NUMBER OF UNKNOWN SEX BIRDS (NU) - Enter maximum number of birds encountered for which no sex was determined. Use this field only if the total number of birds was greater than the number for which sex was determined. For example, if 2 birds were seen or heard at at one time, but over the course of the year, only a male was identified, the other bird could be listed as unknown sex. However, if 2 birds were detected, but not identified by sex, on one visit and later a pair was confirmed, a 0 would be entered in the

sex unknown field.

BANDING STATUS - MALE (BM & BM2) - Enter the appropriate code. Use 2nd
BANDING STATUS - FEMALE (BF & BF2) variable if 2 birds of the same
BANDING STATUS - UNKNOWN SEX (BU & BU2) sex were banded on the site in 1 year.

B - banded during summary year
C - banded in a previous season, confirmed band during the summary year (color or USFWS)
M - previously banded on another site, moved to this site
U - bird present but banding status unknown
N - not banded, bird present but unable to band during summary year
(blank) - no bird present

BANDING STATUS - JUVENILE 1 (BJ1) - Enter the appropriate code.
BANDING STATUS - JUVENILE 2 (BJ2)
BANDING STATUS - JUVENILE 3 (BJ3)

B - banded during summary year
N - not banded, bird present but unable to band during summary year
(blank) - no bird present

REPLACEMENT BIRD 1 (R1) - Enter sex of bird which replaced a previously
REPLACEMENT BIRD 2 (R2) marked or known individual on the site during
REPLACEMENT BIRD 3 (R3) the summary year

M - male
F - female
(blank) - no bird replaced

SUBADULT 1 (SA1) - Enter sex of the subadult bird(s) found on the site
SUBADULT 2 (SA2) during the summary year.
SUBADULT 3 (SA3)

M - male
F - female
U - unknown sex
(blank) - no bird present

MORTALITY 1 (M1) - Sex, for adults, or age of KNOWN mortalities, not
MORTALITY 2 (M2) just 'missing' birds. Proof of death is required.
MORTALITY 3 (M3)

M - Male, adult or subadult
F - Female, adult or subadult
U - Unknown sex, adult or subadult
J - Juvenile of the year
Z - Unknown sex, unknown age
(blank) - no mortality recorded

NESTING SURVEYS (NSR) - Enter the appropriate code for the status of nesting surveys. Nesting surveys are surveys conducted generally between 1 April and 31 May to determine nesting status and nest tree location. Survey results collected between 15 March and 31 March that indicate nesting may be counted toward meeting the criteria; those that do not cannot be

counted since all non-nesting must be confirmed between 1 April and 31 May. These surveys usually involve 'mousing' owls once located. Refer to Appendix C for a description of nesting surveys and the required protocol methodology. When entering P,N or I consider only whether the correct methods were followed not whether they were done within the dates specified in the protocol. The dates are handled in the NST field.

P - complete nesting survey conducted to protocol methods (Appendix C)
N - no nesting surveys conducted (not attempted)
I - Incomplete nesting surveys (some surveys conducted but not to protocol standards)

NESTING SURVEY TIME (NST) - Enter **Y** if nesting survey methods were followed, the NSR field was coded as 'P' **and** all surveys were completed between 1 April and 31 May (or the appropriate dates for your area). Survey results collected between 15 March and 31 March that indicate nesting may be counted toward meeting a complete survey; those that do not cannot be counted. Enter **N** if protocol was not met and/or protocol was not followed and some surveys were completed outside the appropriate dates.

REPRODUCTIVE SUCCESS SURVEY (RSS) - Enter code for status of reproductive surveys. Reproductive success surveys are defined as all attempts to determine the maximum number of young fledged at a site. Young are not considered fledged until they leave the nest tree. Surveys for reproductive success should be completed as soon after fledging dates for the local area as possible. Reproduction surveys may be conducted between 1 June and juvenile dispersal in September. Information gathered after 15 July is important but has some restrictions in its use in calculating some reproductive parameters. Later visits to determine fate of young, beyond the initial and confirming counts, should be considered additional surveys. See Appendix C for a complete description of the survey methods. When completing the RSS field with a P,N, or I consider only whether the correct procedures under the protocol were followed, not whether they were done within the dates of the protocol. The dates are handled in the RST field.

P - complete reproductive survey conducted to protocol methods (Appendix C)
N - no reproductive surveys conducted (not attempted)
I - Incomplete reproductive surveys (some surveys conducted but not to protocol standards)

[Obsolete codes, used under RS field 1987-1990
1 - reproductive survey conducted
0 - reproductive survey not conducted]

REPRODUCTIVE SUCCESS SURVEY TIME (RST) - Enter **Y** if the reproductive success protocol was met, the RSS field was coded as 'P' and all surveys were conducted before 15 July (or the appropriate dates for your area). Enter **N** if the protocol methods were not followed and/or protocol methods were not followed and some visits were conducted after 15 July.

REPRODUCTION - NESTING STATUS (RN) - Enter appropriate code. Use the latest stage of nesting that applies. Be conservative in your determination of nesting status. Do not call a pair nesting unless you see the male take mice to a nest, detect a female on a nest, have a female come off the nest and return, see young, or some other visual confirmation of nesting according to protocol. Confirm the nest at least once later in the

incubation period unless the detection is after 15 May. Owls may engage in pre-nesting and nesting behavior early in the season without actually nesting. A male carrying mice off is not enough evidence by itself; you must see him take it to a nest, female, or young. Also, DO NOT assume failure unless you have hard evidence, such as the male eating 4+ mice during incubation, brooding, or early fledging periods (again, on two separate occasions) or a female sitting in the open for long periods during incubation or early fledging in poor or cold weather. Failure of the adults to respond or our inability to locate them or the juveniles, especially late in the season, does not prove they failed. Under these conditions, enter the latest confirmed stage of breeding. For details of the survey methods, see Appendix C.

U - unknown
V - unknown, no young fledged this year (used if you cannot determine nesting status but completed a reproductive success survey using the protocol methods between 1 June and 15 July and determined no young were present)
N - not nesting (nesting surveys completed using protocol methods between 1 April and 1 June and no nesting activity noted)
C - pre-nesting activity (copulation or other mating behavior)
I - incubation or brooding
O - nestlings or branchers visible (young still in the nest or within the nest tree)
F - fledglings observed (young out of the nest tree)
X - nesting - stage unknown
Z - nesting was confirmed, no young fledged. Use this code when confirmed nesting or young in a nest were followed by at least two reproductive success surveys using protocol methods and it was determined that no young were produced.

OBSOLETE DEFINITION Z = failed (no definition/instructions).

NEST TREE LOCATION (TR) - Enter appropriate code. Use "approximate" if you locate a nest grove but could not pin down the exact tree, as in finding young soon after fledging.

L - nest tree located
A - nest location approx. known (between a few trees)
C - center of activity - young found by July 15
U - nest location unknown (use where not nesting or nesting but young found after July 15)

NEST NUMBER (NN) - 2 digit number for the site. You may use whatever system for numbering your district agrees to as long as individual trees can be tracked and identified. Two examples of systems currently in effect are using the last 2 digits of the year in which the tree was first found or numbering each nest at a site sequentially, starting with the earliest known one. You will want to keep a list of these assignments on paper in a file for future reference.

NUMBER OF JUVENILES (NJ) - Enter the maximum number of juveniles confirmed by sight or sound. These may be young in the nest, branchers, or fledglings. Number in this field should be greater than or equal to number in NFG field.

0 - No young found, reproduction protocol methods followed
1-9 - Maximum number of young detected. Use whenever young are detected.
'Blank'- unknown, no young found, but protocol methods not followed or survey for young done outside protocol dates.

NUMBER OF FLEDGLINGS (NFG) - Enter the maximum number of fledglings confirmed on the site. Fledglings are young that have left the nest tree. Number in this field should not be greater than, but may be equal to the number in NJ field.

0 - No fledglings found, reproduction protocol methods followed
1-9 - Maximum number of fledglings detected. Use whenever fledglings are detected.
'Blank'- unknown, no young found, but protocol methods not followed or survey for young done outside protocol dates.

COMMENTS ENTERED? (COM) - Enter whether the memo field contains comments or not.

Y - yes, comments are entered
N - no, no comments entered

COMMENTS (COMMENT) - Memo field. If you have comments to enter, press (ctrl) PgDn and type the comments. When you finish, press (ctrl) End or (ctrl) W. Enter only major comments not covered by codes.

RADIO - MALE (RM) - Indicate whether the bird carried a radio
RADIO - FEMALE (RF) transmitter during all or part of the summary year.
RADIO - JUVENILE 1 (RJ1)
RADIO - JUVENILE 2 (RJ2)

0 - no radio
1 - radio

ENTRY DATE (ENTDATE) - This will be entered once at the start of each entry session. DO NOT add it to existing records. It's not that important, just a help.

IDENTIFICATION NUMBER (IDNO) - A unique number used for the connecting various files and the interface with GIS. <u>If you use the entry program we have provided, the IDNO will be created by the computer</u> as a direct combination of the Master Site Number and Alternate Location fields<u>. If you do not,</u> you will need to enter it<u> in edit or browse mode</u>. For example, a site with MSNO = 1226 and AL = <u>A</u> would have IDNO = 1226A. Site 1227, with only 1 site center, would be 1227.

SPOTTED OWL SUMMARY FILE STRUCTURE

	VARIABLE CODE	DEFINITION	SIZE	DATA TYPE
	LOCNAME	SITE NAME	20	AN
	MSNO	MASTER SITE NUMBER	4	I
#	**IDNO**	IDENTIFICATION NUMBER	5	AN
	AL	ALTERNATE LOCATIONS	1	C
	RES	RESOURCE AREA	3	I
**	**DIST**	DISTRICT	3	I
	YR	YEAR	2	I
	SPEC	SPECIES	4	C
**	**ENTDATE**	ENTRY DATE	8	D
	DV	# DAY VISITS	2	I
	NV	# NIGHT VISITS	2	I
	NM	# MALES	1	I
	NF	# FEMALES	1	I
	PA	PAIR?	1	C
	NU	# UNKNOWN SEX	1	I
	BM	BANDS - MALE 1	1	C
	BM2	BANDS - MALE 2	1	C
	BF	BANDS - FEMALE 1	1	C
	BF2	BANDS - FEMALE 2	1	C
	BU	BANDS - UNKNOWN SEX 1	1	C
	BU2	BANDS - UNKNOWN SEX 2	1	C
	BJ1	BANDS - JUVENILE 1	1	C
	BJ2	BANDS - JUVENILE 2	1	C
	BJ3	BANDS - JUVENILE 3	1	C
	R1	SEX OF REPLACEMENT 1	1	C
	R2	SEX OF REPLACEMENT 2	1	C
	R3	SEX OF REPLACEMENT 3	1	C
	SA1	SEX OF SUBADULT 1	1	C
	SA2	SEX OF SUBADULT 2	1	C
	SA3	SEX OF SUBADULT 3	1	C
	M1	SEX/AGE OF MORTALITY 1	1	C
	M2	SEX/AGE OF MORTALITY 2	1	C
	M3	SEX/AGE OF MORTALITY 3	1	C
	[RS	REPRODUCTIVE SURVEY OBSOLETE	1	C]
	NSR	NESTING SURVEYS	1	C
	NST	NESTING SURVEY TIME	1	C
	RSS	REPRODUCTIVE SUCCESS SURVEY	1	C
	RST	REPRODUCTIVE SUCCESS SURV. TIME	1	C
	RN	NESTING STATUS	1	C
	NN	NEST NUMBER	2	C
	TR	LOCATION OF TREE KNOWN	1	C
	NJ	MAXIMUM # OF JUVENILES	1	I
	NFG	MAXIMUM # OF FLEDGLINGS	1	I
	COM	**COMMENTS ENTERED?**	**1**	**C**
	COMMENTS	**COMMENT**	**10**	**AN**
	RM	**RADIO - MALE**	**1**	**I**
	RF	**RADIO - FEMALE**	**1**	**I**
	RJ1	**RADIO - JUVENILE 1**	**1**	**I**
	RJ2	**RADIO - JUVENILE 2**	**1**	**I**

BOLD **- to be collected by all westside Oregon biologists. Other variables may be collected at the discretion of each district or biologist.**

**** entered by the computer for information provided at the start of the entry session, if you are using the entry program.**

 # will be created by computer from existing variables, if you are using the entry program.

TELEMETRY FILE DATA ENTRY SCREEN

SPOTTED OWL TELEMETRY FILE

OWL INFORMATION:

ID NUMBER _____ MASTER SITE # _____

OWL ID _____ OWL CODE _____

AGE ___

TELEMETRY LOCATION INFORMATION:

DATE (Mo Dy/Yr) _____/_____/_____

POLYGON SIZE _____ QUALITY CODE _____ LOCATION TIME _____

LOCATION: UTM X _____.____ UTM Y _____.____
STATE PLANE X _____ STATE PLANE Y _____

INSTRUCTIONS AND CODES FOR SPOTTED OWL TELEMETRY FILE

See General Instructions, Page 9.

ID NUMBER (ID) - Consecutive unique number, up to 5 digits, for each telemetry location. The order within a site or between sites is not important, **BUT** every record MUST have a unique ID number.

MASTER SITE NUMBER (MSNO) - A state-wide numbering system with a 4 digit code. Each site is assigned a number. For older sites, use the number on the ODFW nongame database. I you have a copy of the database, pull the already assigned numbers from that. Be sure to check the location (T-R-Sec) as well as the name as some names have mutated over the years. Make a list of the sites without numbers and Charlie Bruce will assign numbers.

OWL ID (IDOWL) - A code for each individual owl, derived from the owl code with the last digit a number indicating whether the bird is the original on the site, or a replacement. ie. If it is the second male on the EXAMPLE CREEK, the OWL ID is ECM2, if it is the third, ECM3.

OWL CODE (OWL) - A 3 letter designation for the site and sex of the owl. ie. A female on the EXAMPLE CREEK would be ECF. This needs to be unique for each site, but not each owl of the same sex ever found on the site.

AGE (A) - Relative age of the bird at the time of the location. Make the transition from subadult to adult effective on September 1 of the year the tail feathers molt to adult form.

A - Adult
S - Subadult
D - Adult or subadult, true age undetermined. Should rarely be used.

DATE (DATE) - Date of telemetry location expressed as MM/DD/YY

POLYGON SIZE (ER) - Code for the size of the triangulation polygon. Researchers have additional codes which indicate locations that are not usable for home range. Contact the specific project for details.

1 - Visual or exact location
2 - Polygon <= 2.5 acres
3 - Polygon > 2.5 but <= 5 acres
4 - Polygon > 5 but <= 20 acres
5 - Polygon > 20 but <= 50 acres

QUALITY CODE (Q) - Code for quality of the triangulation

0 - not a good location, or other than the best location of the night in 1 stand. These will not be used.
1 - best location of the night
2 - second best location of the night, and in a different location than the best.
3 - third best location of the night.

LOCATION TIME (ACT) - Time/type of telemetry location.

1 - Diurnal location
2 - Nocturnal location
3 - Mortality site location

LOCATION - UTM and State Plane. You will probably receive the information as UTMS. We can get the computer to convert these to State Plane. ARD will need all values in State Plane coordinates.

UTM COORDINATE - X (UTMX)
UTM COORDINATE - Y (UTMY)

5 (X) and 6 (Y) digit code for the telemetry location in UTM coordinates. The current form is set up with decimal points. For those familiar with the system, a value of 536.23 is entered in this program as 536.23. The last digit is a 10 m accuracy.

STATE PLANE COORDINATE - X (SPX)
STATE PLANE COORDINATE - Y (SPY)

7 digit code for the site center location in state plane coordinates. This is important for our interface with ARD.

SPOTTED OWL TELEMETRY FILE STRUCTURE

VARIABLE CODE	DEFINITION	SIZE	DATA TYPE	
ID	IDENTIFICATION NUMBER	5	I	
MSNO	MASTER SITE NUMBER	4	I	
IDOWL	OWL IDENTIFICATION	4	AN	
A	AGE	1	C	
DATE	MONTH/DAY/YEAR	8	D	
ER	POLYGON SIZE	1	I	
Q	QUALITY CODE	1	I	
ACT	ACTIVITY TIME	1	I	
UTMX	UTM X COORDINATE	6	6.2	Enter 1 SET
UTMY	UTM Y COORDINATE	7	7.2	State Plane
SPX	STATE PLANE X COORDINATE	7	I	or UTM.
SPY	STATE PLANE Y COORDINATE	7	I	
OWL	OWL CODE	3	AN	

BOLD - to be collected by all westside Oregon BLM biologists if you are using this database to store telemetry data.

VISIT FILE DATA ENTRY SCREEN

Last Entry _____*_____ Date __*__/__*__/__*__ Time: __*__

SPOTTED OWL DATABASE - VISIT DATA FILE

LOCATION NAME _____ **MASTER SITE #** _____ **SPECIES** _____

RESOURCE AREA _____ **MONTH** _____ **DAY** _____ **YEAR** _____
RESPONSE TIME _____ **START TIME** _____ **END TIME** _____

WEATHER: WIND _____ **CLOUDS** _____ **PRECIPITATION** _____

OBSERVER #1 _____ **OBSERVER #2** _____

TOWNSHIP _____ **RANGE** _____ **SECTION** _____ **1/4 SEC** ___ **1/16 SEC** ____

SURVEY: DAY/NIGHT _____ **METHOD** _____
VISIT TYPE _____ **RESPONSE TYPE** _____ **# MICE** _____

 # ADULT/SUBADULT: MALES ____ **FEMALES** ____ **PAIR** ____ **SEX UNK** ____
 # JUVENILES _____ **# FLEDGLINGS** _____

NEST: STATUS _____ **LOCATION** _____ **NUMBER** _____

STAND STRUCTURE: PRIMARY _____ SECONDARY _____ TYPE OF MIX _____

SCREEN 2

ENTRY FOR : _____*_____ DATE: __*__/__*__/__*__ TIME: __*__

PRIMARY LANDOWNER - LEVEL 1 _____ SECONDARY LANDOWNER - LEVEL 1 _____

STATE PLANE: X _____ Y _____

UTM: X _____ Y _____

COMMENTS ENTERED (Y/N) _____

COMMENTS (press (ctrl) PgDn to access comments, (ctrl) End to exit) memo

BOLD - to be collected by all westside Oregon biologists. Other variables may be collected at the discretion of each district or biologist.

** entered by the computer from information provided at the start of the entry session you use the entry program.

INSTRUCTIONS AND CODES FOR SPOTTED OWL VISIT DATA FILE

LOCATION NAME (LOCNAME) - Assign names to sites within your district. The field is limited to 20 characters, so abbreviate as needed. Use historic names or assign new sites names based on the closest geographic landmark. Try to not name sites after timber sales unless sale name corresponds to geographic location. Avoid designating sites as I or II. .Use relative location to distinguish between sites near the same landmark (e. g. Upper Martin Creek, Lower Little Wolf, North Martin, etc.)

MASTER SITE NUMBER (MSNO) - A state-wide numbering system with a 4 digit code. Each site is assigned a number. For older sites, use the number on the ODFW nongame database. If you have a copy of the database, pull the already assigned numbers from that. Be sure to check the location (T-R-Sec) as well as the name as some names have mutated over the years. Make a list of the sites without numbers and David Johnson, Corvallis ODF&W, will assign numbers. When you locate new sites, temporarily assign them values in the 4000s for Salem, 5000s for Eugene, 6000s for Coos Bay, 7000s for Roseburg, 8000s for Medford, or 9000s for Lakeview. Incidental locations may be entered in this file. For incidental locations, either assign temporary numbers and keep them or use a generic temporary number. You may also assign temporary numbers to survey areas, such as those around timber sales. Do not convert incidental or survey temporary numbers to Master Site Numbers unless they are determined to be a site. Any designated sites with temporary numbers should be converted to permanent Master Site Numbers at the end of the season.

SPECIES (SPEC) - Enter appropriate code.

STOC - Northern Spotted Owl
STVA - Barred Owl
STNE - Great Gray Owl
STXX - Spotted Owl - Barred Owl hybrid, any generation
STUN - Strix unknown species
BUVI - Great Horned Owl

For additional species, Refer to Part 5 in the U.S. Fish and Wildlife Service North American Bird Banding Manual, Volume 1, March 1991.

RESOURCE AREA (RES) - Enter the correct code for the Resource Area in which the site occurs. These codes are by area, not master unit. Obsolete Resource Areas and/or Codes are marked with [ ].

Resource Area	Master Unit	Old Code	New Code
Coos Bay			
Umpqua River	South Coast	[453]	UR
Tioga	South Coast	[454]	TI
Myrtlewood	South Coast	[456]	MY
Eugene			
McKenzie	Upper Willamette	[231]	MC
South Valley	Upper Willamette	[232]	SV
Coast Range	[Siuslaw 243] Siuslaw	[244]	CR

RESOURCE AREA (Cont'd)

Medford			
Grants Pass	Josephine	[511]	GP
	[Jackson	521]	
	[South Coast	457]	
Glendale	Josephine	[513]	GL
Ashland	[Josephine	515]	
	Jackson	[525]	AS
	[Klamath	534]	
Butte Falls	Jackson	[526]	BF
	[Josephine	516]	
Roseburg			
North Umpqua	Douglas	[351]	NU
Drain	Douglas	[352]	DR
Dillard	Douglas	[353]	DI
	[South Umpqua	343]	
South Umpqua	[Douglas	354]	
	South Umpqua	[344]	SU
Salem			
Tillamook	Columbia	[111]	TL
Yamhill	[Columbia	112]	
	Alsea-Rickreall	[172]	YA
Alsea	Alsea-Rickreall	[173]	AL
Clackamas	Clackamas-Molalla	[144]	CL
	[Santiam River	184]	
Santiam	Santiam River	[185]	SA
Lakeview			
Klamath	Klamath	[834]	KL

MONTH (MO) - Enter 2 digit numeric code for month, e. g. June = 06.

DAY (DY) - Enter 2 digit code for day of month.

YEAR (YR) - Enter last 2 digits of year, e. g. 1987 = 87.

DETECTION TIME (TIME) - 24 hour clock for time first bird responds. This should be recorded for all initial bird responses in the future. If no bird responds, leave it blank. For entering old data, if no response time is indicated, enter 9999. We will need some entry in this variable for linking the visit and owl file. [OBSOLETE - standard time]

START TIME (BEGT) - 24 hour clock time for start of survey. Always enter a time. If it is unknown, as in the case of old records, enter '9999'. Midnight is recorded as 2400; one minute after midnight is 0001. [OBSOLETE standard time]

END TIME (ENDT) - 24 hour clock time for end of survey. See instructions under Start Time field above. [OBSOLETE standard time]

WIND (W) - Enter appropriate code.

C - Calm (no wind)
B - Light breeze (does not affect detection)
M - Moderate wind (may affect detection)
W - Windy (affects detection)
G - Gusty wind with periods of calm (affects detection part of time)

CLOUD COVER (C) - Enter appropriate code.

C - clear
S - scattered clouds
O - overcast
F - clear with valley/ground fog

PRECIPITATION (P) - Enter appropriate code for the general environment situation not within forest stand situation.

D - dry
F - fog
M - misty rain
R - rain
H - hail
S - snow
L - light rain/drizzle
I - intermittent rain
T - thunderstorm

OBSERVERS (OBSERVER1 and OBSERVER2) - Enter first 12 letters of observer's last name. For very common names, such as Smith, enter first initial and last name. Only 2 observers recorded per visit.

LOCATION - TOWNSHIP (TOWN) - A 4 digit code for the 'best' location of the visit. Use your judgment as to the best location. For example, if a bird responds, then moves toward you, record the first detection. If a pair responds from different areas then move together, record where they first met the pair status requirements. If a bird takes you to a nest tree, use the location of the nest tree. You may still record multiple locations and movements on the field forms and maps. If you think you may be getting responses from 2 different sites from 1 calling location, complete 2 field cards and visit file entries. Enter Township in the first 2 spaces, right justify, and add a 0 at the start if the number is below 10. The 3rd space is for partial townships, enter 5 if it is a 1/2 township or 0 if it is a whole township. The 4th place is for N or S. Examples T 6 S = 060S T 7 1/2 S = 075S T 10 1/2 s = 105S

LOCATION - RANGE (RNGE) - Same format as for township.

LOCATION - SECTION (SE) - 2 digit code indication section. e. g. section 3 = 03.

QUARTER AND SIXTEENTH SECTIONS (QS AND SS)

NW - northwest
NE - northeast
SW - southwest
SE - southeast

if location cannot be placed within 1/4 or 1/16 section, use half or center.

N5 - north half
S5 - south half
E5 - east half
W5 - west half
CT - center of section or quarter section
UN - unknown, unreported

[SURVEY TYPE (used 1987-1990) OBSOLETE (ST)

K - known/historic site
G - general survey - no previous NSO records. As soon as an owl responds and the biologist feels it is a stable site, it becomes a known site from that visit.]

SURVEY TIME (DN) - Enter appropriate codes.

D - day
N - night
B - both

SURVEY METHOD (SM) - Enter appropriate codes. Calling from a known calling point or walking into the core area and then calling, usually falls under 3, general survey routes under 1 and 2.

1 - calling - continuous walking survey other than within stands of historic locations
2 - calling - spot call at **evenly** spaced intervals

SEE NEXT PAGE FOR ADDITIONAL CODES

3 - calling - spot call at irregular intervals or assigned points (includes walking into locations (historic or potential) to begin calling and calling while walking around in a stand.

T - telemetry
V - visual search (no calling)
E - unsolicited sighting/calling
U - unknown, for old records

VISIT TYPE (VT) - Enter appropriate codes. For the purposes of the BLM surveys, use the following definitions:

OC - occupation survey only
ON - occupation and nesting survey
NE - nesting survey only
RO - occupation and reproductive success survey
RS - reproductive success survey only
AD - additional visit
UN - unknown visit type

VISIT DEFINITIONS Also see Appendix C for additional information.

Occupation Visits: all visits to determine the presence of a male, female or pair of owls until the final occupation status is determined. Once it has been established that there is a pair present (must meet criteria for pair found in Summary file, Pair Status Field, code 'P' or 'A') then all subsequent visits will be either Nesting, Reproductive Success or Additional visits. It is quite likely that visits to determine nesting status or reproductive success will be made while still attempting to establish the occupation status of a site. For example, if on a given visit the presence of a pair has not been established, but a single bird or a pair of birds are 'moused' to determine nesting status or reproductive success use the combination codes of ON or RO.
With rare exceptions, night visits should be Occupation visits until pair status is determined using pair criteria from Appendix C. Thereafter, night visits should be coded as additional visits, except for rare instances such as hearing or seeing young.

Nesting Visits : all visits between 1 April and 31 May where owls are

encountered and an attempt is made to determine nesting status (usually day visits only with rare exception) should be considered nesting visits. Visits between 1 March and 31 March may be counted as nesting status visits if the results indicate nesting activity. If they do not then they should be coded as Occupancy visits. Once occupancy and nesting status have been established using Appendix C criteria all subsequent visits should be coded as Reproductive Success or Additional visits.

Reproductive Success Visits: all visits to determine the maximum number of young fledged on a site. These visits occur between 1 June and the onset of juvenile dispersal in September, although it is recommended that they be conducted as soon after normal fledging dates for the locale to reduce the chance of missing fledged young due to early mortality. Reproductive Success visits need not be conducted for sites where nesting status visits establish 'non-nesting' under criteria in Appendix C. This would include those sites where nesting was confirmed not to have been initiated or was initiated and was abandoned prior to 1 June.

Additional Visits: any visits which do not classify as Occupation, Nesting Status or Reproductive Success visits should be coded as Additional visits. This would include check-ups on known young and visits to sites for the expressed purpose of banding birds after occupancy, nesting status and reproductive success have been determined.

OBSOLETE CODES (used 1987-1990)

OR - occupation and reproduction survey
RP - reproduction survey only

OBSOLETE DEFINITION

Reproduction - all attempts to determine whether a pair is nesting, stage of nesting, location of nest tree, and number of young produced until a final count of maximum number of young is complete. Efforts to locate nest trees should be completed by May 15, before the young fledge. Surveys of sites after July 1 should not be considered Reproductive surveys unless (1) the pair was known to have nested, but young have not yet been located or (2) young are found, regardless of our knowledge of the pair's nesting status. Later visits to determine fate of young, after their initial count, should be considered Additional surveys.

RESPONSE TYPE (RT) - Enter appropriate code. Use V if ANY birds were seen. Information for each specific owl encountered will be recorded in the Owl data file. These are listed in order of priority, the highest being visual contact. Use the 'highest' appropriate code.

V - visual for at least 1 bird
T - telemetry/triangulation
A - auditory only
S - sign only (feathers, whitewash, pellets, etc.
U - unknown
N - none observed
O - other describe in comments

MICE (M) - Enter the number of prey taken by all birds on that site. If no prey were offered, enter N, If you OFFERED prey but the owls did not take any, enter 0. Record the fate of each prey item in the comments section of the field cards or if desired add a field with codes for fate of mice to the Visit file for District use.

0-9 - number of prey items fed to owl(s) Enter 0 if prey presented but not taken
N - no attempt to 'mouse' owls that were present or no owls present
U - unknown

NUMBER OF ADULT/SUBADULT MALES (NM) - Enter total number of adult/subadult males encountered at that site during that visit. There should always be an entry in this space. If no owls are encountered, enter 0.

0-9 - enter number of adult or subadult males encountered
[D - dead bird OBSOLETE]
U - unknown

NUMBER OF ADULT/SUBADULT FEMALES (NF) - Enter total number of adult/subadult females encountered at that site during that visit. There should always be an entry in this space. If no owls are encountered, enter 0.

0-9 - enter number of adult or subadult females encountered
[D - dead bird OBSOLETE]
U - unknown

PAIR STATUS (PA) - Enter the status of any birds detected during a single visit. Use the definitions of status for single visits below.

P - pair and/or 1 adult/subadult with young
A - pair as described below plus additional adults/subadults
U - 2 birds either sex - pair relationship unknown
S - only single bird detected
J - Juveniles found, no adults encountered
(blank) - no birds encountered

Pair Status Definitions - If owls are detected at the location during any single visit, the occupancy status will be described using one of the classifications below.

A 'P' should be used if on any given visit at least one of the following occurs. The 'A' code should be used if one of the following occurs and there is also an owl in addition to the territiorial pair.

1) a male and female are heard and/or observed in proximity (< 1/4 mile) to each other;

2) a male takes a mouse to a female, this includes instances between March and June where the male takes the mouse to a candidate nest tree and enters a cavity presumably delivering the mouse to the female even though she may not be seen or heard;

3) a female is detected (heard or seen) on a nest;

4) at least one adult is seen with young (young alone does not provide sufficient evidence to establish presence of a pair since barred owls look like spotted owl young. Later in the season (August), plumage may be used to make the distinction).

An 'S' code should be used if the following occurs on a given visit.

1) a single owl only is either seen or heard and species can be determined. No other owls of the same species are seen or heard on that visit. If a spotted owl and a barred owl meet the criteria above for pair status, record them as a pair, not two singles under the 'S' codes.

A 'U' code is used if the following occurs on a given visit.

1) there is the detection of 2 owls of either sex but, none of the criteria for assignment of a 'P' code described above are met.

NUMBER OF ADULT/SUBADULTS OF UNKNOWN SEX (NU) - Enter total number of adult/subadult owls for which sex could not be determined. There should always be an entry in this space. If no owls are encountered, enter 0.

0-9 - enter number of adult or subadult of unknown sex encountered
[D - dead bird OBSOLETE]
U - Unknown

NUMBER OF JUVENILES (J) - Enter total number of juveniles detected on that visit. There should always be an entry in these spaces. If no juveniles are encountered, enter 0. The number in this field should be greater than or equal to the number in the NFG field.

0 - no young detected, adults present and 'moused'
1-9 - number of juveniles present. Use whenever young are detected.
(blank) - unknown, none found but protocol not met or not surveyed during appropriate time.

NUMBER OF FLEDGLINGS (NFG) - Enter the maximum number of fledglings confirmed on that visit. Fledglings are young that have left the nest tree. If none are seen, be certain to enter a zero (0). The number in this field should not be greater than the number in the J field, but may be equal to it.

0 - No fledglings found, protocol methods used (see Appendix C)
1-9 - Maximum number of fledglings detected. Use whenever fledglings are detected.

(blank) - unknown, none found but protocol not met or not surveyed during appropriate time.

NESTING/REPRODUCTIVE STATUS (NS) - Enter appropriate code whenever owls are located, based only on the information gathered on this visit. DO NOT use previous information. Be conservative in your determination status. Do not call a pair nesting unless you see the male take mice to a female, have a female come off the nest and return, see young, or some other visual confirmation of nesting found after mid-April. If possible, confirm the nest at least once later in the incubation period. Owls may

display pre-nesting or nesting behavior early in the season without actually nesting. A male carrying mice off is not enough evidence alone.

U - unknown (insufficient information to determine nesting\reproductive success, to include instances where no birds are encountered)
[V - unknown, no young produced this year OBSOLETE]
N - not nesting
C - pre-nesting activity (copulation, etc.)
I - incubation or brooding
O - nestlings or branchers detected
F - fledglings observed
X - nesting - stage unknown
[Z - failed OBSOLETE does not apply to single visits]
Y - no young present, use only for visits where a valid reproduction survey is conducted after June 1.

NEST TREE LOCATION (TR) - Enter appropriate code whenever nest status is not Unknown or Not Nesting. Use A for approximate nest location if you locate a nest grove but could not pin down the exact tree, as in finding young soon after fledging.

L - nest tree located
A - nest location approximately known (within a few trees)
C - center of activity - young found by July 15
U - nest location unknown (use where not nesting or nesting but young found after July 15)

NEST NUMBER (NN) - Enter data in this field only in situations where you locate birds nesting in a previously used nest tree which has been numbered. Enter a 2 digit number for the tree for the site. The system for numbering trees in the district is optional as long as individual trees can be tracked and identified. Two examples of systems currently in effect are using the last 2 digits of the year in which the tree was first found or numbering each nest at a site sequentially, starting with the earliest known one. You may want to keep a list of these assignments on paper in a file for future reference.

VEGETATIVE STRUCTURE (V1 and V2) - Enter appropriate code for stand within site distance of or immediately adjacent to the owl. Enter only if at least 1 bird is seen and you don't think your hooting has moved them very far. Enter primary stand condition as V1. If a second type exists within the immediate vicinity of the owl, enter the second type as V2 and indicate the degree of mixing with RA

1. Old-growth. Multi-layered canopy with large overstory trees characterized by large diameter limbs, broken tops, etc. Decadence shown by presence of snags and dead-topped trees. Openings created by fallen trees, often with large logs on forest floor

2 Mature. Generally single layered canopy, large canopy trees (dbh 20-40") relatively uniform in size, lacking large limbs and broken tops. Little decadence.

3. Young. Uniform size canopy trees, most 11-20 " dbh, some up to 30". Relatively closed canopy, little understory vegetation.

4. Pole. Uniform size canopy trees, most 5-11 " dbh. Relatively closed canopy with little understory vegetation. Few branches within 15' of ground.

VEGETATIVE STRUCTURE (Cont'd)

5. Sapling. Uniform size canopy trees, < 5" dbh. Relatively closed canopy with little understory vegetation. Branches common within 15' of ground.

6. Early Regeneration, Clearcut/burn. Conifers small, not creating closed canopy. Often brushy. Includes shrubs, herbs, and small conifers. Conifer branches often extend to ground.

7. Non-conifer Forest - Primarily hardwoods, cannot be comfortably classified as one of the above.

RELATIVE ABUNDANCE (RA) - if a secondary structure type is indicated in V2, indicate the type or extent of the mixture with the appropriate code.

1 - one type only
M - V1/V2 mixed in about equal proportions
P - V1 with patches of V2
S - V1 with scattered stems of type V2
I - V1 with isolated islands of V2

LANDOWNERS - LEVEL 1 (P1 AND S1) - 2 digit code indicating major landowner or agency administering land, at the location the owl(s) respond. If a second landowner exists within the immediate vicinity (e. g. 1/4 mile) of the owl, enter the second landowner as S1.

01 - Oregon Department of Fish and Wildlife
02 - Oregon State Department of Forestry
03 - Oregon State Land Board
04 - Oregon State Park
05 - US Forest Service - Region 5
06 - US Forest Service - Region 6
07 - Bureau of Land Management
08 - US Fish and Wildlife Service
09 - US Park Service
10 - US Army Corps of Engineers
11 - Nature Conservancy
12 - Indian Reservation
13 - Oregon State University
14 - Municipality
15 - Private
16 - Washington Department of Wildlife
17 - Other
18 - Washington Department of Natural Resources

LANDOWNERS - LEVEL 2 (P2 AND S2) - Not required for BLM surveys. A 3 digit code for secondary level of land ownership, such as National Forest, BLM District, Private Company, Municipality, Reservation, etc.

001 - Gifford Pinchot NF
002 - Mt Baker-Snoqualmie NF
003 - Olympic NF
004 - Colville NF
005 - Okanogan NF
006 - Wenatchee NF
007 - Mt Hood NF
008 - Willamette NF
009 - Siuslaw NF
010 - Umpqua NF
011 - Rogue River NF
013 - Deschutes NF
014 - Wimena NF
015 - Fremont NF
016 - Six Rivers NF
017 - Shasta Trinity NF
018 - Klamath N
019 - Mendocino NF
020 - Modoc NF
044 - Malheur NF
045 - Ochoco NF
046 - Umatilla NF

LANDOWNERS LEVEL 2 (Cont'd)

012 - Siskiyou NF
021 - North Cascades NP
022 - Olympic NP
023 - Mount Rainier NP
027 - Spokane BLM
028 - Salem BLM
029 - Eugene BLM
030 - Roseburg BLM
084 - Lakeview BLM
035 - City of Corvallis
064 - Elliott State Forest
036 - Weyerhauser
037 - International Paper
038 - Crown Zellerbach
039 - Georgia Pacific
040 - Willamette Industries
041 - Publishers
042 - US Plywood
048 - Fall City Timber
049 - Fergusen Logging Co. of Albany
050 - Seneca
052 - Roseburg Lumber Co.
053 - Richardson Co., Fall River
055 - Young and Morgan
056 - Boise Cascade
057 - Champion International
058 - Harry Clayton (Estate)
059 - Samuel Morrison
060
061 - Trail Creek Lumber Co.
062 - KOGAP Timber Co.
085 - City of Riddle
086 - Hill Family
087 - Avery Lumber Company
088 - Kilchis County Parks
089 - Rosboro Lumber Co.

047 - Wallowa-Whitman NF
024 - Crater Lake NP
025 - Oregon Caves NM
026 - Redwood NP
031 - Coos Bay BLM
032 - Medford BLM
033 - Redding BLM
034 - Ukiah BLM

043 - City of Portland
054 - Warm Springs Indian Res.
063 - Longview Fibre
065 - Arant Logging Co.
066 - C&D Lumber
067 - Douglas County Lumber Co.
068 - George Bellows
069 - Giustina Brothers
070 - Gregory Timber Resources
071 - Hanna Timber Resources
072 - Lone Rock Timber Co.
073 - Moore Mill

074 - Superior Lumber Co
075 - Sun Studs
076 - Whipple
077 - Woolley Enterprises
078 - MEDCO
079 - Timber Products
080 - T and L
081 - Spaulding
060 - Dayton Hyde082 - Rough and Ready
083 - Mountain Fir

090 - South Coast Lumber
091 - Campbell Group/Hancock Properties

LANDOWNERS - LEVEL 3 (P3 AND S3) - 3 digit code indicating Forest Service District of BLM Resource Area.

USFS Districts and areas

001 - Alsea
002 - Applegate
003 - Ashland
004 - Baker
005 - Barlow
006 - Bear Springs
007 - Bear Valley
008 - Bend
009 - Big Summit
010 - Blue River
011 - Bly
012 - Burns
013 - Butte Falls
014 - Chemult

036 - Klamath
037 - LaGrande
038 - Lakeview
039 - Long Creek
040 - Lowell
041 - Mapleton
042 - McKenzie
043 - Oakridge
044 - Oregon Dunes NRA
045 - Paisley
046 - Paulina
047 - Pine
048 - Pomeroy
049 - Powers

LANDOWNER LEVEL 3 (Cont'd)

015 - Chetco	050 - Prairie City
016 - Chiloquin	051 - Prineville
017 - Clackamas	052 - Prospect
018 - Columbia Gorge	053 - Rigdon
019 - Cottage Grove	054 - Silver Lake
020 - Crescent	055 - Sisters
021 - Crooked River NG	056 - Snow Mountain
022 - Dale	[057 - Steamboat OBSOLETE]
023 - Detroit	058 - Sweet Home
024 - Diamond Lake	059 - Tiller
025 - Eagle Cap	060 - Ukiah
026 - Estacada	061 - Union
027 - Fort Rock	062 - Unity
028 - Galice	063 - Waldport
029 - North Umpqua	064 - Walla Walla
030 - Gold Beach	065 - Wallowa Valley
031 - Hebo	066 - Zigzag
032 - Hells Canyon	091 - Hood Canal
033 - Heppner	092 - Quilcene
034 - Hood River	093 - Quinault
035 - Illinois Valley	094 - Soleduck

BLM RESOURCE AREAS

Resource Area	Master Unit	Code	
Coos Bay			
Umpqua River	South Coast	453	
Tioga	South Coast	454	
Myrtlewood	South Coast	456	
Eugene			
McKenzie	Upper Willamette	231	
South Valley	Upper Willamette	232	
	[Siuslaw	243]	(OBSOLETE)
Coast Range	Siuslaw	244	
Medford			
Grants Pass	Josephine	511	
	[Jackson	521]	(OBSOLETE)
	[South Coast	457]	(OBSOLETE)
Glendale	Josephine	513	
Ashland	[Josephine	515]	(OBSOLETE)
	Jackson	525	
	[Klamath	534]	(OBSOLETE)
Butte Falls	Jackson	526	
	[Josephine	516]	(OBSOLETE)
Roseburg			
North Umpqua	Douglas	351	
Drain	Douglas	352	
Dillard	Douglas	353	
	[South Umpqua	343]	(OBSOLETE)
South Umpqua	[Douglas	354]	(OBSOLETE)
	South Umpqua	344	

RESOURCE AREAS (Cont'd)

Salem			
Tillamook	Columbia	111	
Yamhill	[Columbia	112]	(OBSOLETE)
	Alsea-Rickreall	172	
Alsea	Alsea-Rickreall	173	
Clackamas	Clackamas-Molalla	144	
	[Santiam River	184]	(OBSOLETE)
Santiam	Santiam River	185	
Lakeview			
Klamath	Klamath	834	

STATE PLANE AND UTMS - It is only recommended to enter these values for banding locations and the nest tree for each year (only active nests).

SITE LOCATION - STATE PLANE COORDINATE - X (SPX)
SITE LOCATION - STATE PLANE COORDINATE - Y (SPY)

7 digit code for the location in state plane coordinates in meters. This is important for our interface with ARD. We should be able to get ARD to convert from UTM to SP or back, so you only need to enter 1 set.

SITE LOCATION - UTM COORDINATE - X (UTMX)
SITE LOCATION - UTM COORDINATE - Y (UTMY)

5 (X) and 6 (Y) digit code for the location in UTM coordinates. Up to the District as to whether to enter this. We may be able to eventually get ARD to do for us. The current form is set up without decimal points. For those familiar with the system, a value of 536.23 is entered in this program as 53623. The last digit is a 10 m accuracy. If you cannot be this accurate, fill the last place with 0.

COMMENTS ENTERED? (COM) - Enter whether the memo field contains comments or not.

Y - yes, comments are entered
N - no, no comments entered

COMMENTS (COMMENTS) - Memo field. If you have any comments to enter, press (ctrl) PgDn and type comments. When you finish, press (ctrl) W or (ctrl) End to exit back to the entry forms. Enter only major comments not covered by codes, such as condition of dead bird; if a new previously banded bird shows up in a new site, where did it come from; where a bird banded at this site last year showed up, etc.

TEMPERATURE (TEMP) - Degrees in Centigrade, convert if necessary.

ELEVATION (ELEV) - Not required for BLM surveys. 4 digit code, elevation in feet

COVER TYPE (C1, C2, C3) - Not required for BLM surveys. Enter the code that best describes the vegetation within sight distance of the owl(s). Only record vegetation if you have reason to believe your survey efforts did not cause the bird to move, ie. they have not flown in to you. If the location lies on the interface of 2 or 3 vegetation cover types, you may enter up to 3 types. Use this sparingly, not just single trees in an otherwise uniform forest.

01 - coastal spruce - hemlock
02 - lodgepole pine (shorepine)
03 - western redcedar
04 - Douglas fir - western hemlock
05 - Douglas fir - Port Orford cedar
06 - Douglas fir - tanoak - California laurel - madrone
07 - true fir - western hemlock - Douglas fir
08 - noble fir
09 - silver fir - mountain hemlock
10 - Alaska cedar forest
11 - southwestern Oregon mixed conifer forest - predominantly Douglas fir associations with variable amounts of white fir, incense cedar, western white pine, sugar pine, ponderosa pine, canyon live oak, California black oak, madrone, and Pacific yew.
12 - interior grand fir - Douglas fir forest, including variable amounts of ponderosa pine, incense cedar, western white pine, sugar pine, western larch, and lodgepole pine.
13 - grand fir or white fir forest with variable amounts of Douglas fir and ponderosa pine.
14 - white fir or grand fir - red fir forest with variable amounts of Douglas fir.
15 - red fir forest
16 - interior lodgepole pine forest
17 - ponderosa pine forest
18 - juniper woodland
19 - Jeffery pine forest
20 - Douglas fir - white fir - bigleaf maple forest (interior valley)
21 - oak woodlands including mixtures of oak and madrone
22 - deciduous bottomlands - stands of cottonwoods, western ash, red alder, bigleaf maple, etc.
23 - red alder forest
24 - quaking aspen forest
25 - riparian willows, shrubs, cottonwoods
26 riparian California laurel
27 - deciduous trees planted around homesteads, feedlots, etc.
28 - evergreen brushfields
29 - deciduous brushfields
30 - grassy coastal headlands
31 - moist meadow
32 - dry meadow
33 - subalpine meadow or grassland
34 - steppe (grasslands of E. Oregon and Washington)
35 - shrub-steppe (high desert sagebrush communities)
36 - bitterbrush - grass associations
37 - desert shrub (communities dominated by Atriplex sp.)
38 - mountain mahogany stands
39 - agricultural lands (tilled/grazed)
40 - interior valley prairies (mixtures of grass & shrub such as Rosa or blackberries
41 - urban trees or shrubs
42 - freshwater lake, pond, or reservoir
43 - saltwater bay or estuary
44 - marsh or swamp, including tidal marsh, bog

COVER TYPE (Cont'd)

45 - spring or seep
46 - river, stream, or seep
47 - mudflats, alkali flats
48 - beach (tidal area)
49 - dunes (above tidal area)
50 - cave
51 - cliff
52 - talus slope, rock outcrop
53 - rocky flat (sparse shrub or herbaceous cover)
54 - snowfields, glaciers
55 - alpine rocks, mountain tops
56 - ocean
57 - rocky headland (coastal)
58 - offshore rocks or islands
59 - garbage dump
60 - sewage or other waste treatment ponds
61 - golf course
62 - bridge
63 - barn or other building
64 - western hemlock - western redcedar forest
65 - western hemlock - silver fir

STAND AGE (SA) - Not required for BLM surveys. Record measured age only, do not estimate. You may be able to count rings on stumps of apparently similar age in nearby clearcuts or roadcuts.

01 - old-growth (over 200 years old)
02 - mature (80 - 200 years old)
03 - mature with scattered individuals or patches of old-growth
04 - 60 - 80 year old forest (medium to large sawtimber)
05 - type 04 with scattered individuals or patches of old-growth
06 - 40 60 year old forest (small sawtimber)
07 - type 06 with scattered individuals or patches of old-growth
08 - 20 - 40 year old forest (early regeneration)
09 - 5 to 20 year old cutovers or burns
10 - 0 - 5 year old cutovers or burns
11 - old-growth/mature mix, both age groups common
12 - type 04 with considerable amounts of old-growth present
13 - type 08 with scattered individuals or patches of old growth

STAND CONDITION (SC) - Not required for BLM surveys.

01 - unlogged stand (no logging since establishment of stand)
02 - salvaged for dead and down material
03 - moderate selective removal
04 - heavy selective removal
05 - seedtree or shelterwood removal
06 - clear-cut - treatment unknown
07 - precommercially thinned stand
08 - small patch of unharvested old growth surrounded by selectively logged forest
09 - small patch of unharvested young growth (60-100 years) surrounded by selectively logged young growth
10 - firewood harvest (commercial sale)
11 - firewood harvest (public permit harvest)
12 - recent wildfire - trees killed (pre-salvage)
13 - recent wildfire - primarily underburn
15 - unburned patch in recent wildfire (pre-salvage)
14 - other - describe in comments section

LAND USE CATEGORY (LU) - Not required for BLM surveys.

01 - commercial forest - unrestricted
02 - commercial forest - restricted (visual, soils, etc)
03 - wilderness
05 - national park
06 - state park
07 - wildlife refuge
08 - research natural area
09 - agriculture
10 - rangeland
11 - forest used for research, teaching, and commercial harvest
12 - withdrawn - noncommercial forest

LAND USE CATEGORY (Cont'd)

13 - scenic river corridor or other scenic area
14 - other - describe in comments
15 - rural residential
16 - withdrawn - not covered by above
17 - HCA 1 or 2
18 - DCA 1 or 2
19 - Critical Habitat Unit - CHU

ENTRY DATE (ENTDATE)

This will be entered once at the start of each entry session. DO NOT add it to existing records. It's not that important, just a help.

SPOTTED OWL DBASE III FILE STRUCTURE

VISIT DATA FILE

VARIABLE CODE	DEFINITION	SIZE	DATA TYPE	COMMENTS
LOCNAME	LOCATION NAME	20	AN	
MSNO	MASTER SITE NUMBER	4	I	
SPEC	SPECIES	4	C	
RES	RESOURCE AREA	3	I	
MO	MONTH	2	I	
DY	DAY	2	I	
YR	YEAR	2	I	
TIME	DETECTION TIME	4	I	
BEGT	BEGIN TIME	4	I	
ENDT	END TIME	4	I	
W	WIND	1	C	
C	CLOUD COVER	1	C	
P	PRECIPITATION	1	C	
OBSERVER1	OBSERVER #1	12	C	
OBSERVER2	OBSERVER #2	12	C	
TOWN	TOWNSHIP	4	AN	
RNGE	RANGE	4	AN	
SE	SECTION	2	I	
QS	QUARTER SECTION	2	C	
SS	SIXTEENTH SECTION	2	C	
[ST	SURVEY TYPE OBSOLETE	1	C]	
DN	DURVEY TIME	1	C	
SM	SURVEY METHOD	1	AN	
VT	VISIT TYPE	2	C	
RT	RESPONSE TYPE	1	C	
M	MOUSE	1	AN	
NM	# ADULT/SUBADULT MALES	1	I	
NF	# ADULT/SUBADULT FEMALES	1	I	
PA	PAIR	1	C	
NU	# ADULT/SUBADULT UNKNOWN SEX	1	I	
J	# JUVENILES	1	I	
NS	NEST/REPRODUCTIVE STATUS	1	C	
NL	NEST LOCATION	1	C	
NN	NEST NUMBER	2	I	
V1	STAND STRUCTURE - PRIMARY	1	I	
V2	STAND STRUCTURE - SECONDARY	1	I	
RA	RELATIVE ABUNDANCE - MIX	1	I	
P1	PRIMARY LANDOWNER - LEVEL 1	2	I	
P2	PRIMARY LANDOWNER - LEVEL 2	3	I	
P3	PRIMARY LANDOWNER - LEVEL 3	3	I	
S1	SECONDARY LANDOWNER - LEVEL 1	2	I	
S2	SECONDARY LANDOWNER - LEVEL 2	3	I	
S3	SECONDARY LANDOWNER - LEVEL 3	3	I	

VARIABLE CODE	DEFINITION	SIZE	DATA TYPE	COMMENTS
SPX	STATE PLANE X COORD.	7	I	
SPY	STATE PLANE Y COORD.	7	I	
UTMX	UTM X COORDINATE	5	I	
UTMY	UTM Y COORDINATE	6	I	
COM	COMMENTS ENTERED?	1	C	
COMMENT	COMMENTS	10	AN	
TEMP	TEMPERATURE	3	I	
ELEV	ELEVATION	4	I	
C1	COVER TYPE - PRIMARY	2	I	
C2	COVER TYPE - SECONDARY	2	I	
C3	COVER TYPE - TERTIARY	2	I	
SA	STAND AGE	2	I	
SC	STAND CONDITION	2	I	
LU	LAND USE CATEGORY	2	I	
ENTDATE	ENTRY DATE	8	D	

BOLD - to be collected by all westside Oregon biologists. Other variables may be collected at the discretion of each district or biologist.

OWL FILE DATA ENTRY SCREEN

Entries for _____*_____ __*__/__*__/__*__
You have already entered

SPOTTED OWL DATABASE - OWL DATA FILE

LOCATION NAME _____*_____ **MASTER SITE #** ____*____

RESOURCE AREA ____*____ **SPECIES** ____*____

MONTH ___*____ **DAY** ____*____ **YEAR** ___*____ **RESPONSE TIME** ____*_____

OBSERVATION TYPE ____

USFWS BAND # _____-_____ **LEG** ____
COLOR BANDS **PATTERN** _____ **MAIN COLOR** _____ **SECONDARY COLOR** _____
LEG _____ **TAB** _____

SEX _____ **AGE** _____

TAIL: # BARS RIGHT _____ LEFT _____
TIP COLOR _____ **TIP SHAPE** _____

WEIGHT _____ RADIO ___

LOCATION CODE _____

COMMENTS ENTERED (Y/N) ___
COMMNENTS (press (ctrl) PgDn to access comments) memo

BOLD - to be collected by all westside Oregon biologists. Other variables may be collected at the discretion of each district or biologist.

INSTRUCTIONS AND CODES FOR SPOTTED OWL OWL DATA FILE

LOCATION NAME (LOCNAME) - Assign names to sites within your district. You are limited to 20 characters, so abbreviate as needed. Use historic names or assign new sites names based on the closest geographic landmark. Try to not name sites after timber sales unless sale name corresponds to geographic location. Avoid designating sites as I or II. Use relative location to distinguish between sites near the same landmark (e. g. Upper Martin Creek, Lower Little Wolf, North Martin, etc.)

MASTER SITE NUMBER (MSNO) - A state-wide numbering system with a 4 digit code. Each site is assigned a number. For older sites, use the number on the ODFW nongame database. If you have a copy of the database, pull the already assigned numbers from that. Be sure to check the location (T-R-Sec) as well as the name as some names have mutated over the years. Make a list of the sites without numbers and David Johnson, Corvallis ODF&W, will assign numbers. When you locate new sites, temporarily assign them values in the 4000s for Salem, 5000s for Eugene, 6000s for Coos Bay, 7000s for Roseburg, 8000s for Medford, or 9000s for Lakeview. Incidental sites may be entered in this file. For incidental locations, either assign temporary numbers and keep them or use a generic temporary number. You may also assign temporary numbers to survey areas, such as those around timber sales. Do not convert incidental or survey temporary numbers to Master Site Numbers unless they are found to be a site. Any true sites with temporary numbers should be converted to permanent numbers at the end of the season.

RESOURCE AREA (RES) - Enter the correct code for the Resource Area in which the site occurs. These codes are by area, not master unit. Obsolete Resource Areas and/or Codes are marked with [ ].

Resource Area	Master Unit	Old Code	New Code
Coos Bay			
Umpqua River	South Coast	[453]	UR
Tioga	South Coast	[454]	TI
Myrtlewood	South Coast	[456]	MY
Eugene			
McKenzie	Upper Willamette	[231]	MC
South Valley	Upper Willamette	[232]	SV
	[Siuslaw	243]	
Coast Range	Siuslaw	[244]	CR
Medford			
Grants Pass	Josephine	[511]	GP
	[Jackson	521]	
	[South Coast	457]	
Glendale	Josephine	[513]	GL
Ashland	[Josephine	515]	
	Jackson	[525]	AS
	[Klamath	534]	
Butte Falls	Jackson	[526]	BF
	[Josephine	516]	

RESOURCE AREA (Cont'd)

Roseburg			
North Umpqua	Douglas	[351]	NU
Drain	Douglas	[352]	DR
Dillard	Douglas	[353]	DI
	[South Umpqua	343]	
South Umpqua	[Douglas	354]	
	South Umpqua	[344]	SU
Salem			
Tillamook	Columbia	[111]	TL
Yamhill	[Columbia	112]	
	Alsea-Rickreall	[172]	YA
Alsea	Alsea-Rickreall	[173]	AL
Clackamas	Clackamas-Molalla	[144]	CL
	[Santiam River	184]	
Santiam	Santiam River	[185]	SA
Lakeview			
Klamath	Klamath	[834]	KL

SPECIES (SPEC) - Enter appropriate code.

STOC - Northern Spotted Owl
STVA - Barred Owl
STNE - Great Gray Owl
STXX - Spotted Owl - Barred Owl hybrid, any generation
STUN - Strix unknown species
BUVI - Great Horned Owl

For additional species, Refer to Part 5 in the U.S. Fish and Wildlife Service North American Bird Banding Manual, Volume 1, March 1991.

MONTH (MO) - Enter 2 digit numeric code for month, e. g. June = 06.

DAY (DY) - Enter 2 digit code for day of month.

YEAR (YR) - Enter last 2 digits of year, e. g. 1987 = 87.

DETECTION TIME (TIME) - 24 hour clock for time first bird responds. This should be recorded for all initial bird responses in the future. If no bird responds, leave it blank. For entering old data, if no response time is indicated, enter 9999. We will need some entry in this variable for linking the visit and owl file. [OBSOLETE - standard time]

START TIME (BEGT) - 24 hour clock time for start of survey. Always enter a time. If unknown, in the case of old records enter '9999'. Midnight is recorded as 2400; one minute after midnight is 0001. [OBSOLETE standard time]

END TIME (ENDT) - 24 hour clock time for end of survey. Refer to instructions under Start Time field above. [OBSOLETE standard time]

OBSERVATION TYPE (OT) - Enter appropriate code. Remember, there is a separate entry for each individual owl encountered.

BB - new bands attached (first banding)
BR - color band replaced
BC - color band attached, previous USFWS band
CB - bands read/bird in hand
VB - color band read/bird free
VN - visual - no bands read (see VI below)
UB - visual - unbanded
VT - telemetry
AN - auditory - no bands read
MO - mortality
NR - no response
UN - unknown
VO - previously confirmed on 1 site, now on another, within 1 year
VI - color band seen, color not determined.

USFWS BAND NUMBER (USFW) - Enter entire USFWS band number. The hyphen is already entered. Left justify all values, ie. if the prefix is only 3 numbers in the prefix, start with a 0 e.g., 0877-06014 and 1387-15501.

LEG (L AND L2) - Enter appropriate code.

R - right
L - left

COLOR BAND PATTERN (PAT) - Enter the pattern of the band as follows. BLM generally uses only the first 2.

SOL - solid
STR - three stripe band, as those we use for juveniles and subadults, e.g. red with a center white stripe.
HOR - bicolored band, e. g. red top, blue bottom.
VER - vertical striped band.
DIA - diagonally striped band, candy striped.

TOP OR MAIN COLOR - LEG BAND (COL) - Enter appropriate code for the main color of the band or, for bicolored bands, the top color. Codes for colors are created by using the first 3 letters of the color, unless the 3 letters are already in use. If so, we chose another combination. Contact Joe Lint if new color codes are needed.

BAK - black
BLU - blue
GRE - green
RED - red
WHI - white
YEL - yellow
ORA - orange
SKB - sky blue
PNK - pink
PUR - purple
UNK - band seen but color not visible
NON - no color band

TOP OR MAIN COLOR - LEG BAND (Cont'd)

OBSOLETE CODES, used 1986-1990
GRS - green with white stripe
RES - red with white stripe
BLS - blue with white stripe
BAS - black with white stripe
WHS - white with black stripe
YES - yellow with black stripe
NON - none
UNK - unknown, color band was seen but the color unreadable.

BOTTOM OR SECONDARY COLOR (BOT) - Enter the stripe color of striped bands or the bottom color of a bicolored band. See comments on TOP COLOR.

BAK - black
BLU - blue
GRE - green
RED - red
WHI - white
YEL - yellow
ORA - orange
SKB - sky blue
PNK - pink
PUR -purple
UNK - band seen but color not visible
NON - no color band

TAB COLOR (TAB) - Enter the color of the tab if tabs are being used.

BAK - black
BLU - blue
GRE - green
RED - red
WHI - white
YEL - yellow
LIM - lime
ORA - orange
FOR - fluorescent orange
GRY - grey
SKB - sky blue
(blank) - none seen
UNK - unknown, use only if a tab was seen but the color was unreadable.
NON - No tab on band, absence of tab verified.

SEX (S) - Enter appropriate code.

M - male
F - female
U - unknown

AGE CLASS (A) - Enter appropriate code. Do not use previous information to make the call. If you do not look at the tail feathers on a particular visit, use the D designation.

A - adult
S - subadult
D - adult/subadult - not young of the year, but true age unknown
F - any young of the year <u>before dispersal</u> (includes nestlings, branchers and fledglings)
U - unknown

[NUMBER OF TAIL BARS OBSOLETE (B) - Enter the maximum # of complete white bars on one of the 2 middle tail feathers. If you collect this information read the following reference CAREFULLY. There have been major misinterpretations in the past. See Barrows, Bloom, and Collins. 1982. Sexual differences in the tail barring of spotted owls. North American Bird Bander, 7:138-139. for details.]

NUMBER OF TAIL BARS - LEFT AND RIGHT FEATHERS (BL and BR) - Enter the maximum number of complete white bars on each feather. If you collect this information read the following reference CAREFULLY. There have been major misinterpretations in the past. See Barrows, Bloom, and Collins. 1982. Sexual differences in the tail barring of spotted owls. North American Bird Bander, 7:138-139. for details.

TAIL TIP COLOR (T) - Enter appropriate code. Under good conditions, this may be determined while the bird is perched nearby, without capture. Used in age class differentiation.

W - white
M - mottled
U - unknown, not reported

TAIL TIP SHAPE (TS) - Enter the appropriate code. Used to differentiate age of subadult.

P - pointed
R - rounded
U - unknown

WEIGHT (WT) - Enter weight in grams if bird is weighed. If you know the bird has eaten mice, estimate the weight of the mice and subtract it from the measured weight. Mice weigh 10 - 20 grams, depending on their size. Convert if necessary.

RADIO (TX) - Enter appropriate code.

1 - first radio attached
2-9 - subsequent radios attached
R - radio removed, no subsequent radios attached

LOCATION CODE (LOCCODE) - Eight character code for Lat\Long Blocks used in USFWS Banding Schedule Generator. Refer to Appendix D for codes by block.

COMMENTS ENTERED? (COM) - Enter whether the memo field contains comments or not.

Y - yes, comments are entered
N - no, no comments entered

COMMENTS (COMMENTS) - Memo field. If you have any comments to enter, press (ctrl) PgDn and type comments. When you finish, press (ctrl) W or (ctrl) End to exit back to the entry forms. Enter only major comments not covered by codes, such as condition of the bird; if a banded bird moves between sites, where it came from or went to; injuries noted;

brood patches; etc.

ENTRY DATE (ENTDATE) - This will be entered once at the start of each entry session. DO NOT add it to existing records. It's not that important, just a help.

SPOTTED OWL DBASE III FILE STRUCTURE

OWL DATA FILE

VARIABLE CODE	DEFINITION	SIZE	DATA TYPE	COMMENTS
LOCNAME	LOCATION NAME	20	AN	
MSNO	MASTER SITE NUMBER	4	I	
RES	RESOURCE AREA	3	I	
SPEC	SPECIES	4	C	
MO	MONTH	2	I	
DY	DAY	2	I	
YR	YEAR	2	I	
TIME	DETECTION TIME (24 HOUR)	4	I	
OT	OBSERVATION TYPE	2	C	
USFW	USFWS BAND NUMBER	10	I	
L	LEG	1	C	
PAT	STRIPE PATTERN	3	C	
COL	PRIMARY COLOR	3	C	
BOT	SECONDARY COLOR	3	C	
L2	COLOR BAND LEG	1	C	
TAB	TAB COLOR	3	C	
S	SEX	1	C	
A	AGE	1	C	
B	# TAIL BARS	1	AN	
BL	# TAIL BARS - L FT FEATHER	1	AN	
BR	# TAIL BARS - RIGHT FEATHER	1	AN	
T	TAIL TIP COLOR	1	C	
TS	TAIL TIP SHAPE	1	C	
WT	WEIGHT (GRAMS)	3	I	
TX	RADIO TRANSMITTER	1	AN	
LOCCODE	LOCATION CODE	8	C	
COM	COMMENTS ENTERED?	1	Y	
COMMENT	COMMENTS	10	AN	
ENTDATE	ENTRY DATE	8	D	

BOLD - to be collected by all westside Oregon BLM biologists. Other variables may be collected at the discretion of each district or biologist

\# - to be entered whenever you band an owl, for USFWS banding schedules.

APPENDICES

STANDARDS AND GUIDELINES FOR SPOTTED OWL OCCUPANCY, NESTING STATUS AND REPRODUCTION SURVEYS

Spotted owl survey efforts are conducted annually between March and September to determine occupancy, nesting status and reproductive success at both known and potential owl sites.
The following definitions and explanations provide the basic information necessary to guide the subject surveys and record the data.

OCCUPANCY SURVEYS

Individual Visits

The survey of known or potential owl sites is conducted to detect the presence of owls at the location. The occupancy classifications below provide information for survey of sites and recording data in the Visit file of the database whenever owls are present. If owls are detected at the location during any single visit the occupancy status will be described using one of the classifications below. Information on the occupancy status of a site for the year-end summary is provided in the Cumulative Visit Summary section below.

* Pair - a pair is present on any single visit if at least one of the following occurs.

1) a male and female are heard and/or observed, either initially or through their movements, in proximity (< 1/4 mile) to each other;

2) a male takes a mouse to a female, this includes instances during March through early June where the male takes the mouse to a candidate nest tree and enters a cavity presumably delivering the mouse to the female even though she may not be seen or heard;

3) a female is detected (heard or seen) on a nest;

4) at least one adult is seen with young (presence of young alone does not provide sufficient evidence to establish presence of a pair since young barred owls look like spotted owl young. Later in the season (August), plumage may be used to make the distinction).

* Single - a single owl is present on any single visit if only one owl (either sex) is seen or heard.

Cumulative Visit Summary

At the conclusion of the survey season the occupancy for each site is determined by reviewing the classifications for each of the individual visits. The classification standards below provide information for the review of visit cards and the recording data in the Summary file of the database. In summarizing the occupancy at the site for the year, it is necessary to determine which of the following classifications best fit the situation portrayed by the cumulative visit results.

Pair - a pair is confirmed on the site if any of the following occur.

1) a male and female are heard and/or observed in proximity (< 1/4 mile) to each other on **at least 2 individual visits** at least 1 week apart during the season.

2) a male takes a mouse to a female on **at least one visit** during the season. This includes instances between 15 March and 31 May where the male takes a mouse to a candidate nest tree and enters a cavity presumably giving the mouse to a female even though she may not be seen or heard.

3) a female is detected (seen or heard) on a nest on **at least one visit** during the season.

4) one or both adults are observed with young on **at least one visit** during the survey season (young alone not sufficient evidence to establish pair presence since young barred owls look like spotted owl young. Later in the season (August) plumage may be used to determine the species.).

5) a banded male and female confirmed on a site in a previous year are both present at the site (seen either together or singly) on at least one visit each during the season.

Resident Single - a resident single owl occupancy is comprised of two subcategories (S and B) used to separate survey effort. Both are considered equal in terms of describing single occupancy, but the S category is definitive in describing lack of pair occupancy based on survey effort.

An 'S' is assigned to the site for the year-end summary when:

a) individual visits show detection of a single owl of the same sex a minimum of 2 times separated by at least 1 week in any one year or with repeated detections (any combination totaling 3 in a two year period) in consecutive years. At least 1 of the 3 detections for consecutive year's data and 1 of the 2 for any single year's data must occur before August 1.

and

b) a total of six visits are completed in the current year without the detection of another owl of the opposite sex.

A 'B' is assigned for the year-end summary when:

a) individual visits show detection of a single owl of the same sex a minimum of 2 times separated by at least 1 week in any one year or with repeated detections (any combination totaling 3 in a two year period) in consecutive years. At least 1 of the 3 detections for consecutive year's data and 1 of the 2 for single year's data must occur before August 1.

but

b) there were not six visits completed in the current year to determine whether another owl of the opposite sex was present.

Pair Status Unknown - pair status unknown occupancy is assigned for the year-end summary when the individual visit information shows the detection of 2 owls of the opposite sex where at least one of 2 will satisfy the S or B resident single criteria, but insufficient information is available to satisfy the pair classification criteria.

Not Occupied (N) - not occupied is assigned for the year-end summary when the visit information shows that at least six visits were made with 4 being at night and no response was detected.

Unknown Occupancy (Z) - unknown occupancy is assigned for the year-end summary when less than 6 visits are conducted or when there were at least six visits, but less than 4 at night and no response was detected.

Unknown Status - an unknown status occupancy is assigned for the year-end summary whenever the individual visit information shows the detection of 1 owl (either sex) or 2 owls of the either sex, but insufficient information to satisfy the classification as a pair, resident single or pair status unknown.

REPRODUCTIVE SUCCESS

This category is comprised of the subcategories of Nesting Status and Number of Young Fledged. The following definitions and explanations provide information for survey of sites and recording data in the Visit and Summary files of the database.

Nesting Status

The determination of nesting status yields information on whether the subject owls being surveyed are nesting, non-nesting or their nesting status is unknown. In the process of making these conclusions information is also gathered on the location of nest trees which is valuable in accurately locating site centers for the Site file of the database.

Surveys to determine nesting status are normally conducted between 1 April and 31 May however the initiation may be adjusted based on local data for nest initiation. **Survey visits conducted prior to the initiation date may be counted toward determining nesting status if they indicate positive nesting activity, but all surveys to substantiate non-nesting must occur within the survey period (1 April - 31 May).** Nesting may also be confirmed by the location of young at any time during the season provided that at least one adult is present or plumage is present on the young to permit species identification.
The survey visits should be spread across the time period according to the timeframes described below.

The technique of "mousing" the owls as described below is a key procedure used in the determination of nesting status. **CAUTION: DO NOT "MOUSE" THE OWLS ANY MORE THAN IS NECESSARY TO OBTAIN THE INFORMATION. THROUGH THIS PROCEDURE THE OWLS ARE STIMULATED TO MOVE AROUND DURING THE DAY AND MAY BE MORE VULNERABLE TO DETECTION AND POSSIBLE CONTACT WITH A PREDATOR. THE SAME IS TRUE FOR CALLING IN AND AROUND NEST TREES IN ORDER TO CONTACT THE OWLS TO CONDUCT THE "MOUSING". HOOTING MAY DISTURB THE FEMALE IF SHE IS ON THE NEST CAUSING HER TO COME OFF THE NEST OR IT MAY DRAW IN PREDATORS SUCH AS RAVENS.**

Description of the Mousing Procedure

1) Locate one or both members of the pair during the day and offer them mice or other small prey items.

2) Whenever the owl(s) take the offered prey or are noted with natural prey, record the fate of each prey item (eaten, cached, fed to female, fed to young). The fate information need only be recorded in the comment field of the database or at user discretion an additional, optional field may be added to the database for local use. The fate of prey information may be important during the determination of the nesting status.

3) If the owl eats the prey item, continue to offer additional prey items until the owl 1) sits on the prey for 30 to 60 minutes, 2) refuses to take an offered prey item after 20 to 30 minutes, 3) carries the prey away or 4) takes 4 prey items. The visit may be ended if any of the preceding occur. If the owl flies away with the prey, follow and attempt to determine the fate of the prey. Additional information on the mousing technique may be reviewed in Forsman, E.D. 1983. Methods and materials for locating and

studying spotted owls. USDA Forest Service, General Tech Rept. PNW-162.

4) The "mousing technique" is a key element in classifying the nesting status of a site, thus observers should make a concerted effort to get the owl to take a mouse. This may involve innovative presentations to encourage the owl to take the prey. Offer mice to the other member of the pair if one was not receptive.

Nesting Confirmation

Two observations, at least one week apart, are required to confirm that the pair is nesting if the first observation is made before May 1. Nesting observed prior to April 1 may be used to satisfy the 2 visit criteria. After May 1, a single observation is sufficient. The two observations are necessary because owls may show behavior indicating nesting early in the season without actually laying eggs. The second visit is needed to confirm that the owl is incubating.

Nesting is confirmed if on 2 visits before May 1 or 1 visit after May 1 any of the following are observed.

1) the female is detected (seen or heard) on the nest; **or**

2) either member of the pair carries natural or observer-provided prey to the nest; **or**

3) young are detected in the presence of one or both adults. Young alone are not sufficient to determine nesting since young barred owls look like young spotted owls in the first months. Later in the summer (August) the distinction can be made based on plumage differences.

NOTE: Previously, a female with a brood patch when examined in hand mid-April to mid-June was also accepted as confirmation of nesting. Due to variability associated with this method both among owls and among observers this should no longer be used as a method of nesting confirmation.

Non-Nesting Confirmation

Two observations at least 3 weeks apart are required to confirm that no nesting has occurred if the first observation occurs in April. If the first observation occurs between 1 May and 15 May, 1 week between visits will suffice. For the period of 16 May through 31 May, non nesting may be confirmed with only one visit.

Be aware that females with young may roost outside the nest cavity in late May, thus observations late in the period may be misleading and the observer may wish to schedule another visit(s) to the site after the fledging date to verify the non-nesting call.
Non-nesting is confirmed within the survey schedule described above if any of the following occur.

1) the female is observed roosting for 60 minutes on two separate occasions, particularly early in the season (April). Be aware that females with large nestlings may roost outside the nest in warm weather thus surveys in May that yield females exhibiting this behavior may warrant a check in mid-June to verify that no young are present.

2) the female does not possess a brood patch when examined in hand between mid-April and mid- June. This need only be observed 1 time.

3) one member of the pair takes at least 2 prey on two separate visits and either caches, sits with prey for extended period of time (>30 minutes) or refuses (ignores offered prey for at least 30 minutes) to take any prey beyond the 2 minimum. One of the owls must take the minimum number of mice on the visits in order for the survey to be valid for non-nesting. If mice are not taken, the visit does not count toward a survey visit to support non-nesting.

In instances where the owl(s) leave the area with prey and you are not able to follow to determine the fate of the prey the survey visit cannot be used in support of a non-nesting classification and cannot be counted toward the 2 required visits. Owls that will not take prey and do not provide insight as to whether or not they are nesting using the other criteria would be classified as Unknown Nesting Status (see below).

Unknown Nesting Status

With the exception of the brood patch criterion or the documentation of the presence of young, the assignment of nesting or non-nesting will depend upon data collected prior to 1 June. Unknown Nesting is assigned to sites where either of the following occur.

1) owls are first found after 1 June, without young

2) owls were found prior to 1 June, but no determination of nesting or non-nesting was either completed or attempted.

Number of Young Fledged

For any pair that was determined to be nesting, reproductive success surveys should be conducted soon after fledging dates (usually late May/early June) to count the number of young fledged (birds out of the nest tree). At biologist discretion, reproductive surveys may also be conducted on sites where nesting status was unknown or where non-nesting was based on late season data and the observer is seeking further verification. Visits should occur promptly after the fledging date to reduce the influence of post fledging mortality on the number of young observed. Determination of the Number of Young Fledged should be done according to the guidelines below. In the process, data on the total number of young seen (fledged and those not yet fledged) will also be obtained. The survey effort should strive to have the counts for number of young fledged equal total number of young seen.

1) Search the area surrounding the known or suspected nest tree area. The adults should be located and "moused" with the expectation that they will deliver the prey to the young revealing their location to the observer.

2) If the adult owls take at least 2 prey items and cache, sit with, or refuse additional offerings without any detection of young by the observer on at least 2 occasions separated by at least a week the number of young fledged is recorded as 0.

3) If young are detected during a reproductive success visit, record the number seen or heard and of that number how many have fledged(left nest tree). Conduct at least 1 followup visit within 3 to 10 days to locate additional young that may have been missed or to determine if any young that had not fledged as of the previous visit have fledged in the

interim. If no additional young are found in the followup or the followup is not done, the initial number of young counted (total number of juveniles and number fledged) is recorded as the final number.

4) In instances where nesting pairs were known and no response was obtained from the adults after the minimum 2 visits and no young were otherwise detected, the number of young fledged is recorded as 0.

Appendix E List of 110 Spotted Owl Sites Under BLM/ODFW Spotted Owl Agreement 1987.

Roseburg District

- Honey Creek
- Wapiti Creek
- Ringtail Creek
- Bid-Joker
- Trail Creek
- Riverview
- Little Wolf I
- Whiskey Camp
- Rader Creek
- Lost Creek
- Rookery
- Thistleburn Creek
- Halfway Creek
- South Fork Smith River
- Peterson Point
- Burnt Mountain
- Berry Creek
- Dice Creek
- Darby Creek
- Iron Mountain Creek
- Mitchell Creek
- Turkey Creek
- O'Shea Creek
- Tater Hill
- Louis-Riser
- Coffee Creek
- Mighty Fine

Salem District

- Stanley Peak
- Blue Ridge
- Moon Creek
- Elk Creek
- Nestucca River
- Kutch Creek
- Coast Creek*
- Warnick Creek
- West Dorn Peak
- Peedee Creek
- Cougar Ridge
- North Fork Alsea
- Skunk Creek
- Honey Grove
- Prairie Peak
- Lukens Creek
- Table Rock
- Nasty Rock
- Buck Mountain
- Thomas Creek
- Crabtree Creek
- East Fork Packers Gulch
- Lower Whitcomb

Medford District

- Grouse Creek
- Grub Gulch
- Bobby Creek
- Mule Creek
- Board Tree
- Taggarts Creek
- Morine
- Powell Creek
- Taylor Gulch
- Greens Gulch
- Rummel Rock
- Buck Rock
- Ladybug Gulch
- Chapman Creek
- Dad's/Sled Creek
- Ditch Hole
- Timbered Rock
- Lost Creek
- Fredenberg
- North Fork Deer Creek
- Centennial Gulch
- Lost Lake
- East Chinquapin
- Scotch Pine

*lands transferred to Grande Ronde Indian Tribe

Appendix E (Cont'd)

Coos Bay District

West Fork Smith River
Paradise Creek
Little Paradise Creek
Little Mill Creek
Camp Creek
Smith Creek
Soup Creek
Coal Creek
North Fork Coquille
Susan Creek
Alder Creek
Cherry Creek
Middle Brummet
Upper Brummet
Upper Sandy Creek
Lower Sandy Creek
Slide Creek
Weaver Ridge
Baker Ridge

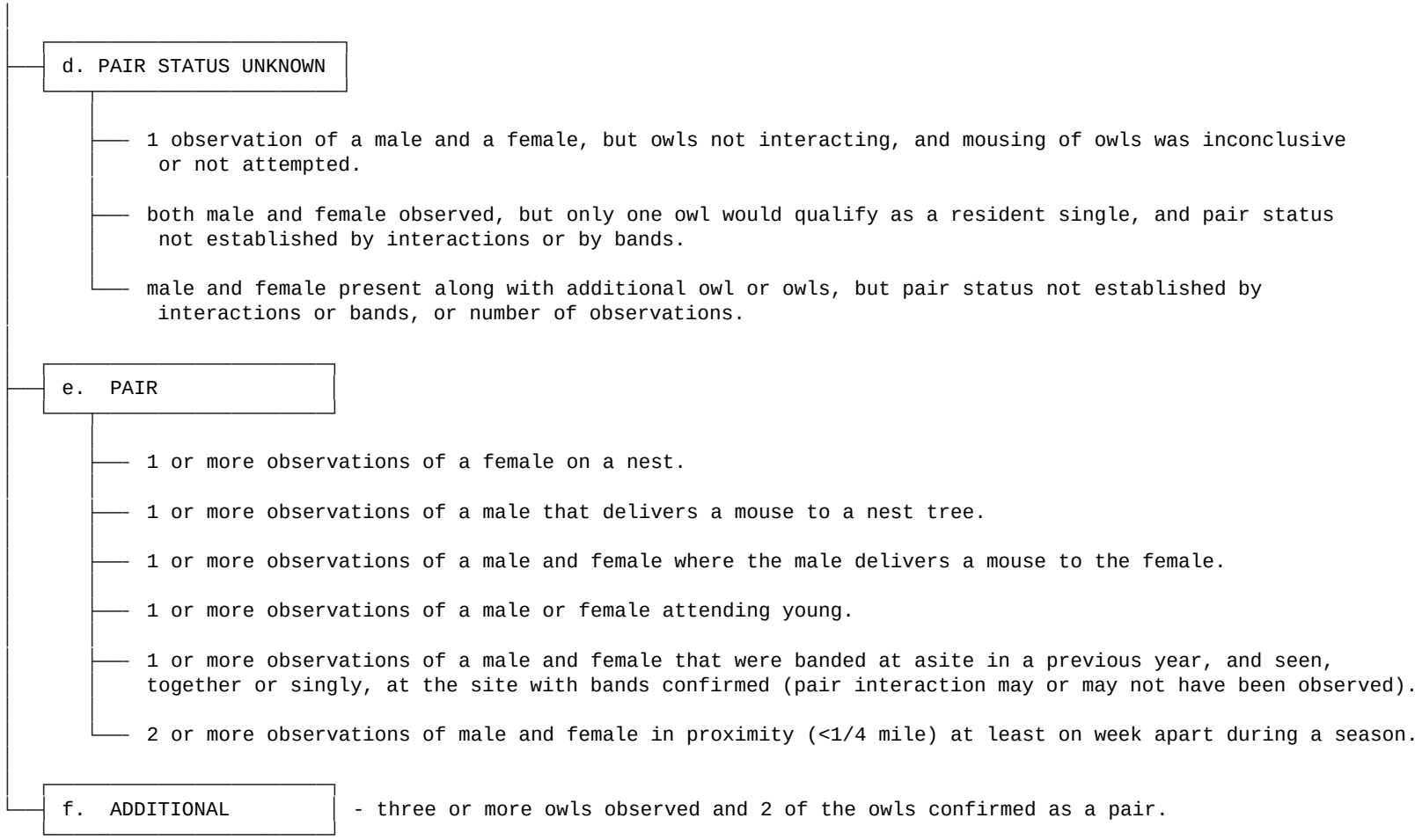
Eugene District

Bear Creek
Upper Edwards Creek
Dry Creek
Shea Creek
Mosby Creek
Clark Creek
Lick Creek
Russell Creek
Lower Buck Creek
Doe Hollow
Smith Creek East
Haight Creek
Wolf Creek
Saleratus Creek
Waite Creek
Walker Creek
Windy Peak

Criteria to Consider for Meeting Protocol on Owl Sites and Summarizing Year-end Results.

1. OCCUPATION - At the end of the field season the responses obtained at each site can be summarized into one of the following categories. Observations of owl interactions are important to determining pair status. Pair activity may include such things as: copulation, male taking a mouse to female, or other pair bonding behaviors occurring when owls are seen or heard together. An observation is seeing and/or hearing the owl(s).

- **a. NOT OCCUPIED** - Requires 6 complete visits with no response (at least 4 at night).
- **b. OCCUPATION UNKNOWN**
  - 5 or fewer complete visits at a site with no response.
  - 1 observation of a single owl.
  - 1 observation of two or more owls of any sex, where none of the owls appeared to be paired.
  - 2 observations of one or more owls occurring less than one week apart.
- **c. RESIDENT SINGLE**
  - 2 or more observations of a single owl of the same sex occurring at least one week apart with ar least one before August 1.
  - 3 or more observations of a single owl of the same sex in 2 consecutive survey years. (2 in one year and 1 in the next year, or vice versa) with at least one before August 1.
  - Three owls present with only one of the owls observed twice or more and pair status not established.


d. PAIR STATUS UNKNOWN
1 observation of a male and a female, but owls not interacting, and mousing of owls was inconclusive or not attempted.
both male and female observed, but only one owl would qualify as a resident single, and pair status not established by interactions or by bands.
male and female present along with additional owl or owls, but pair status not established by interactions or bands, or number of observations.
e. PAIR
1 or more observations of a female on a nest.
1 or more observations of a male that delivers a mouse to a nest tree.
1 or more observations of a male and female where the male delivers a mouse to the female.
1 or more observations of a male or female attending young.
1 or more observations of a male and female that were banded at asite in a previous year, and seen, together or singly, at the site with bands confirmed (pair interaction may or may not have been observed).
2 or more observations of male and female in proximity (<1/4 mile) at least on week apart during a season.
f. ADDITIONAL
- three or more owls observed and 2 of the owls confirmed as a pair.

2. NESTING STATUS - There are three possible outcomes resulting from the completion of NESTING surveys during the appropriate dates (April 1 -to- June 1). Nesting observed prior to April 1 may be used to satisfy criteria.

a. NESTING - Observations of nesting behavior include: mice being delivered to a nest tree by either adult, or a female observed on a nest.

- ONE nesting observation will confirm nesting if it occurs after MAY 1.
- TWO nesting observations are needed to confirm nesting if first observation occurs before MAY 1 (both observations can occur in April separated by 1 week).
- ONE observation of adult with young.

b. NON NESTING - all surveys to substantiate this status must occur between APRIL 1 and JUNE 1. Both adults should be located in the core area and "moused" at least twice on each visit. Observations that indicate non-nesting behavior include: a female taking 2 or more mice from a male or from an observer but not delivering them to a nest tree or young.

- TWO non-nesting observations - at least 3 weeks apart if first observation is before MAY 1.
- TWO non-nesting observations - one week apart if both observations are conducted between MAY 1 and May 15.
- ONE non-nesting observation if observed between May 16 and May 31
- ONE observation - of the female in hand between APRIL 15 and JUNE 15, showing NO BROOD PATCH.

c. NESTING UNKNOWN

- First observation of owls for the season occurs after JUNE 1 - finding a pair or single WITHOUT YOUNG during this and any subsequent visits.
- First observation or owls for the season occurs before JUNE 1 - but nesting determination is not completed or attempted (owls were not "moused" to protocol during this time).
- One or more observations of a single male that has been fed any number of mice which he retains, eats, caches, or otherwise does not deliver to female or young.

<<< NOTE >>> the presence of a BROOD PATCH on a captured female DOES NOT CONFIRM NESTING by itself. However, the lack of a BROOD PATCH on a female captured between APRIL 15 and JUNE 15 does confirm NON NESTING status.

3. NUMBER OF YOUNG FLEDGED - REPRODUCTIVE Surveys should be conducted after JUNE 1 and before JULY 15. The location young after July 15 is useful data, but surveys that do not find young are inconclusive.

- **a. NUMBER FOUND = 1 or more** - first visit that finds fledged young (out of nest tree) should be followed by at least one followup visit in 3 to 10 days. If additional young are not detected then total number fledged is the initial count.
- **b. NUMBER FOUND = ZERO** - complete 2 visits at least one week apart where parents take at least 2 mice during each visit and do not deliver them to young. It is important to be in close proximity to nest tree during mousing and to move parents a few hundred meters away from the nest tree in the event that young have fledged and have begun to move. Refer to mousing protocol for more information.
- **c NUMBER FOUND = UNKNOWN** - Number fledged will be UNKNOWN if nesting has been confirmed and reproductive surveys do not find parents, or parent(s) are found without juveniles but they are not "moused" to protocol (less than 2 complete mousing visits).